Glenwood Heights Primary
Math Intervention Program Evaluation
Fall 2016

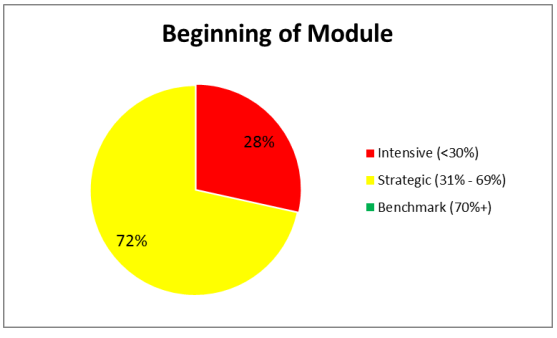
At Glenwood, we are continuously looking for ways to improve our intervention program to better meet the needs of our students. As we receive feedback, we make changes to our intervention program, then evaluate the effectiveness of those changes. The feedback that was used to implement changes to our program this year came from a variety of sources that were compiled over time. Those sources include:

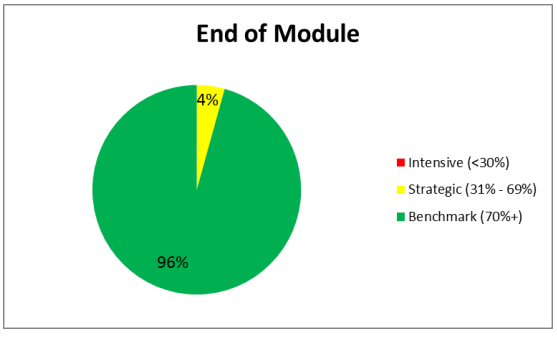
- 2015-16 Parent Survey – June 2016
- 2015-16 Staff Survey – June 2016
- 2015-16 End-of-Year IA Survey – June 2016
- School Leadership Team Meeting, September 30, 2016
- Anecdotal observations shared by IAs during collaborations – weekly, Oct 2016-Jan 2017
- Anecdotal observations shared by Teachers during data cycles, Nov 8-9 and Nov 14-15th

Overview:

In evaluating our math intervention program at Glenwood, the responses we receive are generally positive. Parents, teachers and instructional assistants report feeling as if students are benefitting from the program, academically, socially and emotionally. In addition, students report that they enjoy attending intervention services. As one parent said, "they act like it is some kind of club that they get to go". Instructional assistants report students who were formerly served in math club but are no longer receiving services occasionally approach them in common school areas and ask "When do I get to come back to math club?"

Assessment data support that the intervention is positively impacting student learning. Over the course of the 2015-16 school year, there were 116 students who completed at least one module in our math intervention program. Among them, the average percentage of growth from beginning of module scores to end of module scores was 46%.





In addition, 96% of students who scored intensive or strategic on the *Do the Math Program* beginning of module assessment scored benchmark on their end of module assessment.

For the most part, the curriculum we are using as an intervention (*Do the Math* by Marilyn Burns) has been an effective program. Instruction in operations is non-algorithmic and based on place value understanding. The program incorporates hands-on manipulatives and visual representations to help students make connections to numeric/symbolic representations. There are frequent opportunities built in for student discourse, and progress monitoring is a regular part of the program with a *Show What You Know* every fifth lesson.

However, no one program meets the learning needs of all students. There is always room for improvement. In the table that follows, we have listed observations, feedback or suggestions from teachers and parents in the left column, and changes we've made to improve the program in the right column as a result of the feedback received.

Feedback/Issue/Suggestion	**Response**
Timely communication that my child is in program. "My child was going to group before I received notice."	Email notifications of entry into program prior to serving students, followed by letters sent home in Friday folders.
More opportunities to learn about specific strategies to help my child.	Breakfast & Books (continue) Muffins & Math (implement monthly, Nov-Apr) Invite parents to shadow days
Evening meetings	Offer LAP/Title information meetings in both the AM and PM in the Fall and Spring. (4 total)
I lost the letter with my child's usernames and Passwords for RAZ/IXL	Email technology to parents with usernames, passwords and embedded link to program
<u>The ENY materials</u> (1st gr) that we adapted was an improvement over when students simply started with NC at the beginning of the year in first grade, but since it came from one section of a core curriculum program, only portions of the lesson were utilized, which resulted in a fragmented program. The materials were not as teacher-friendly in terms of easy to follow directions and material prep.	As a district, we piloted the *Moving Up!* program to better meet the needs of our first grade students. After completing a module, we've seen gains in student achievement. In addition, the program is well written and easy to follow.
<u>Do the Math ASA and ASB</u> (2nd and 3rd grade) is an effective program for many students, but focuses solely on counting up or counting back on an open number line for the entire module. There are some students who are not successful with this strategy	According to the CCSS, students need to be able to add and subtract within 100 using a strategy based on place value and the properties of operations. In both ASA and ASB modules, after students have learned how to use an open number line, we have supplemented instruction to include an alternative strategy for those students who are not successful in flexibly adding and subtracting with an open number line.
<u>DTM Division/Fractions</u> (4th grade) These modules have been extremely successful in building conceptual understanding of division and fractions with 4th grade students.	At lesson 15 (mid-module), after students have demonstrated proficiency with the conceptual understanding of division, students are introduced to pencil and paper strategies based on place value to

It is clear there is a need for these modules, because students rarely pass the pre-assessment to determine whether they qualify for program. That is not always the case for other modules in other grade levels. Although students gain an understanding of how to solve problems with the visuals, manipulatives and supports provided in the program, when faced in class with solely numeric/symbolic representations, and more complex problems, students often struggle to apply their learning from intervention to the problems they are presented with in the classroom. In addition, it is difficult for students to solve division problems using the relationship between multiplication and division without a basic knowledge of multiplication facts.	solve division problems without having to use manipulatives or draw and group/share all. In addition, in an effort to increase multiplication fact fluency, we implemented strategy based instruction for entry tasks, as well as regular number talks around mental multiplication strategies.
Despite focused effort of regularly incorporating strategies for helping students become fluent with basic addition and subtraction math facts, many students continue to struggle with this skill.	We have implemented number talks as an entry task in all grade levels to increase student's flexibility in number. Number talks encourage metacognition, provides students opportunities to explain reasoning and articulate strategies, and exposes students to strategies that others have used successfully. The MIS has offered book studies to support teachers in implementing Number Talks in the classroom, and has modeled the use of Number Talks with students in classrooms as well.