



# Oak Park Elementary School District 97

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**To:** District 97 Board of Education  
Dr. Carol Kelley, Superintendent of Schools

**From:** Dr. Amy Warke, Chief Academic and Accountability Officer  
Dr. Tawanda Lawrence, Senior Director of Curriculum, Instruction and Assessment  
April Capuder, Gwendolyn Brooks Middle School Principal  
Dr. Todd Fitzgerald, Percy L. Julian Middle School Principal

**Re:** Middle School Math Pilot Review and Findings Update

**Date:** April 9, 2019

## **Type of Report: Informational**

**Purpose of Report:** The purpose of this report is to provide the Board of Education with an update of the District 97 Middle School Math Pilot and share the mathematics program the teaching and learning department is recommending for district-wide adoption during the 2019-2020 school year. The information in this report is divided into the following sections:

- Middle School Math Pilot Analysis and Findings
- Middle School Math Program Recommendation for Adoption
- 2019-2020 Projected Budget and Resource Requirements
- Math Department Next Steps

## **Middle School Math Pilot Analysis of Findings:**

**Equity:** What are the differential experiences of children by achievement level and by household income? (Could be a slightly different set of categories, for example, single parents, households with an without internet access, etc.) What is being done to achieve equity or balance in other ways?

Each of the three math programs that were piloted (Pearson Connected Mathematics Project 3, Carnegie Learning Middle School Math Solution, and Pearson enVisionmath2.0) included assessments for the unit that was piloted. However, there were some inconsistencies regarding the pre and post assessments that were administered to students at each grade level and across both schools. Furthermore, to ensure we compare pre and post assessments that are fundamentally the same, the student performance data that will be analyzed only consists of the classrooms at each grade level that administered common pre and post assessments.

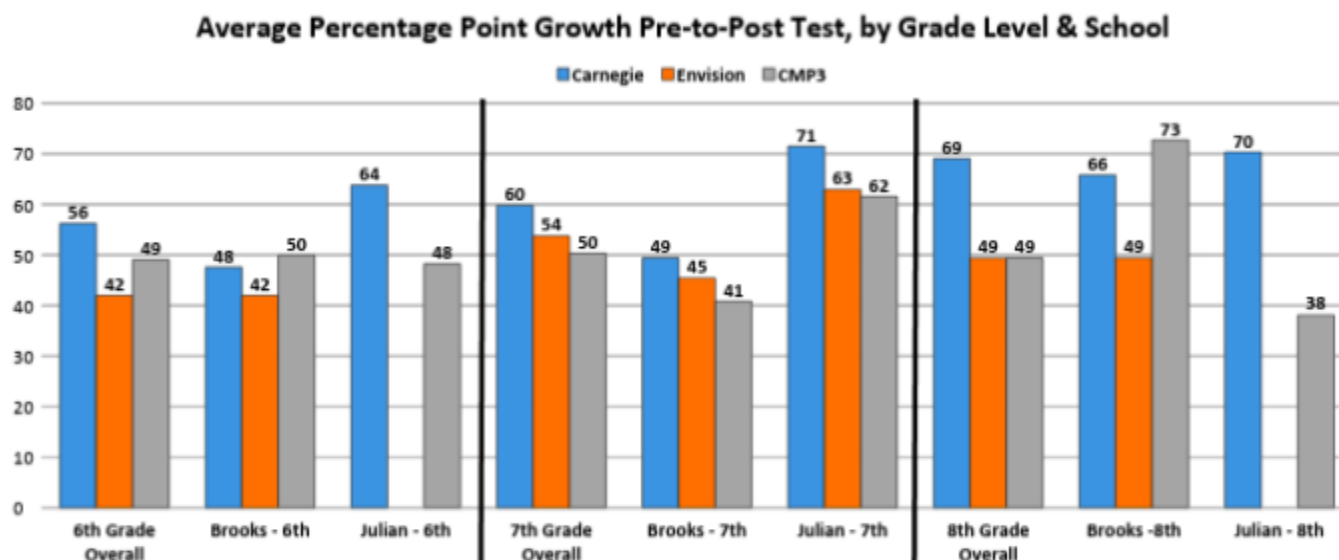
### *Middle School Math Pilot Student Performance Data*

The student performance data below includes sixth through eighth grade pilot students who were administered common pre and post assessments for the unit that was piloted for Carnegie Learning

Middle School Math Solution, Pearson enVisionmath2.0, and Pearson Connected Mathematics Project 3. The data shows the overall point growth score for each grade level was higher for Carnegie

Learning Middle School Math Solution. However, the 6th and 8th grade students at Brooks Middle School demonstrated more growth with Pearson Connected Mathematics Project 3 and the 6th, 7th, and 8th grade students at Julian scored higher with Carnegie Learning Middle School Math Solution.

During our data analysis, we identified the student growth data is misleading as the gap between the pretest and posttest tends to decrease as the year progresses. Carnegie Learning Middle School Math Solution was piloted at the beginning of the year, followed by Pearson enVisionmath2.0, and Pearson Connected Mathematics Project 3. It is difficult to control for both concept and curricula in this case. For example, students performed poorly at the beginning of the year on the Pythagorean Theorem pretest as there was little prior knowledge to draw from coupled with the commencement of the new school year. As the year progressed and students acquired new skills, self-efficacy regarding math ability, and diverse learning experiences the gap between pretest and posttest decreased. We have determined that the inability to adjust for the learning progressions of students significantly impacts the validity of the student performance data collection.



### *Middle School Math Pilot Teacher and Student Survey Results*

**Communication with key stakeholders:** What is being done/has been done to elicit include feedback/ideas from teachers, parents, older students, administrators, or other key stakeholders. What are the most common concerns and positive comments received and how are they being addressed?

#### Teacher Survey

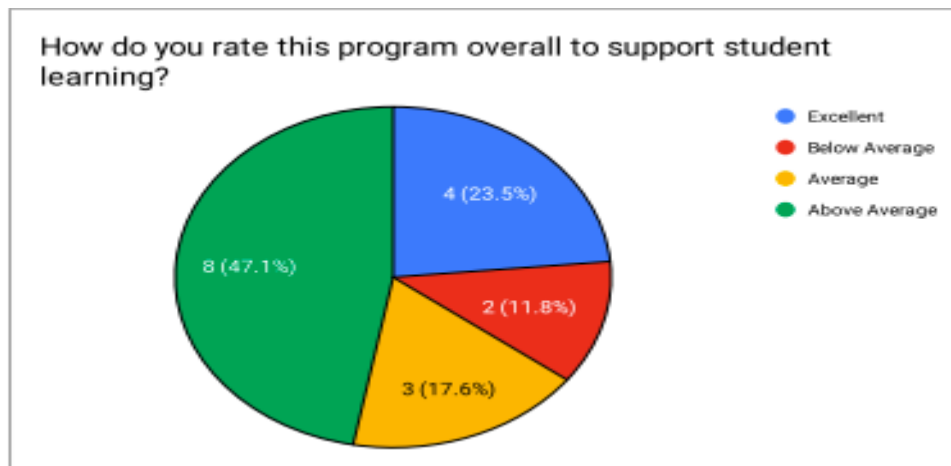
The teaching and learning department gathered feedback from various stakeholders on each pilot program. All pilot teachers were invited to participate in a survey that allowed them to reflect on the following areas as it relates to each pilot program:

- The program is aligned to the Illinois Learning Standards and promotes

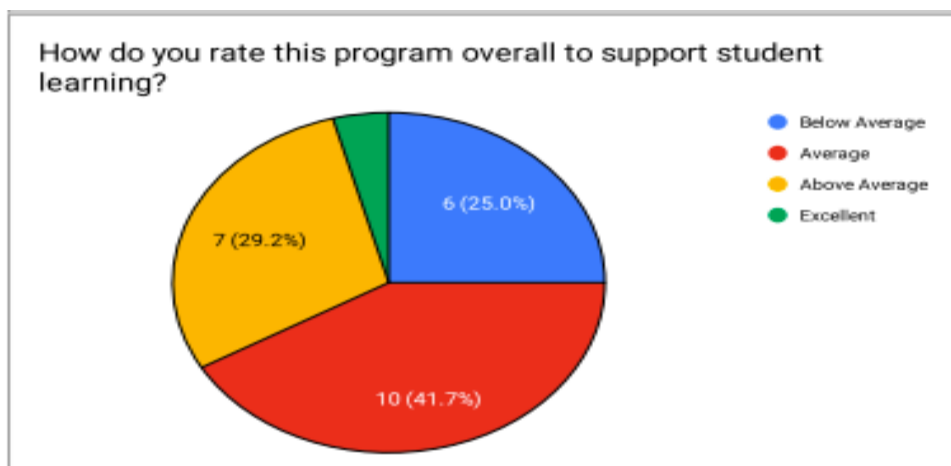
- Student centered/constructivist learning
- Student collaboration
- Productive struggle and perseverance in students
- Eight mathematical practices
- Development of reasoning and problem solving
- Differentiated instruction
- Student reflection and self assessment
- Technology infused instruction
- Quality formative and summative assessments
- D97 Math Mission Statement values

The survey data below suggests that 23.5% of teachers rated Pearson Connected Mathematics Project 3 excellent overall compared to the excellent rating of 4.1% for Carnegie Learning Middle School Math Solution and 11.1 % for Pearson enVisionmath2.0.

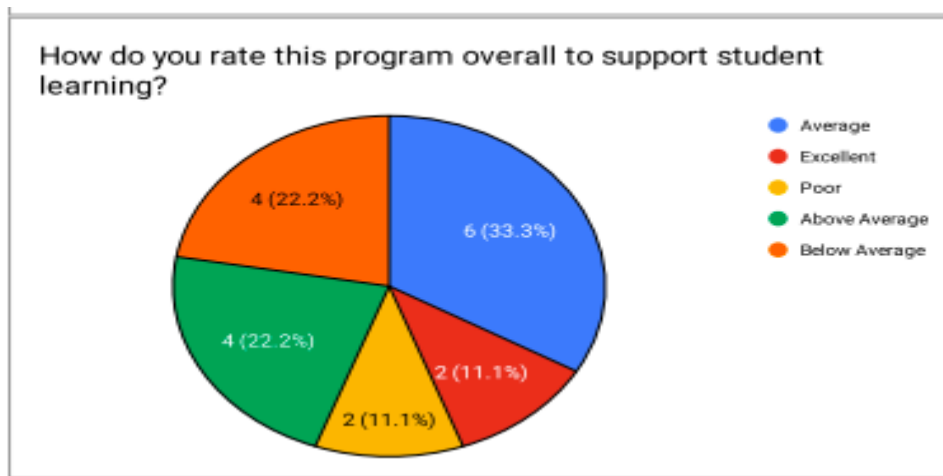
Pearson Connected Mathematics Project 3:



Carnegie Learning Middle School Math Solution:



Pearson enVisionmath2.0:



### Student Survey

Students who participated in the pilot were asked to take part in a survey that allowed them to provide their input on each pilot program as it relates to the following areas:

- The activities and lessons I completed in this unit were clearly explained
- The unit allowed for me to work with my peers to learn new information
- This unit challenged me
- I felt confident in my abilities and learning during this unit
- I would like to use this program again for future units
- Explain what you liked most about this unit and resources we used
- Explain anything you would change about these resources

The survey data below reveal that 49.6% of students favored Pearson Connected Mathematics Project 3, while 44.3% of students would like to use Carnegie Learning Middle School Math Solution again for future units, and 55.3% of the student population recommended Pearson enVisionmath2.0 for future use. The student survey data indicate there is a difference of 5.7% between Pearson Connected Mathematics Project 3 and Pearson enVisionmath2.0. However, the following quotes are responses from students when asked to share what they liked most about Pearson Connected Mathematics Project 3 resources and materials:

- "How well the book explained all the problems."
- "There were creative problems that really got us thinking."
- "I enjoyed this unit because the book was very interactive."
- "I liked the creative questions."
- "I liked the different word problem stories."
- "It would show us where we went wrong and it would teach us how we get it right."
- "I liked the examples it had."
- "I liked how the unit challenged me and how I really had to think."
- "I like the variety in the problems and how they weren't all the same."

- “I liked how they used real life situations as actual problems.”
- “I liked how we were able to be free and have our own ideas.”
- “I liked the group projects.”
- “In this unit I liked how we got examples before we started everything we did.”

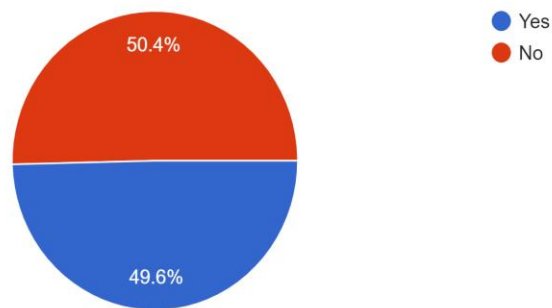
When the same group of students were asked to explain anything they would ask to change about Pearson Connected Mathematics Project 3, most students indicated they would not change anything, while some students stated the following:

- “Better explanation on word problems.”
- “I wish we could write in the books instead of on a piece of paper.”
- “Move a little slower.”
- “Less homework.”

#### Pearson Connected Mathematics Project 3:

I would like to use CMP3 again for future units.

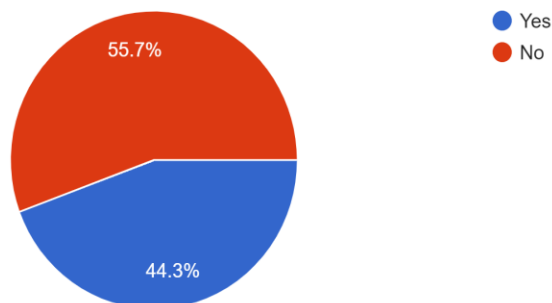
514 responses



#### Carnegie Learning Middle School Math Solution:

I would like to use Carnegie again for future units.

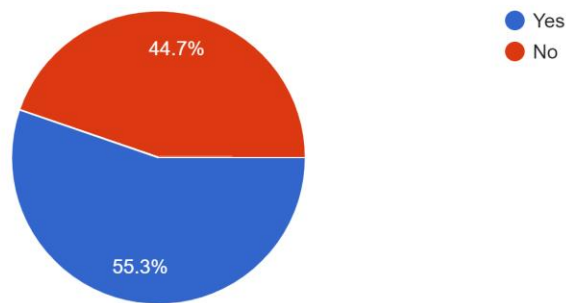
778 responses



Pearson enVisionmath2.0:

I would like to use Envision again for future units.

633 responses



### **Middle School Math Program Recommendation for Adoption:**

The feedback the teaching and learning department received from surveys provided input from teachers and students on the areas of strength and opportunities for growth for each program. The survey results were taken into consideration when selecting a math program to recommend to the Board of Education for district adoption.

In addition to the survey data that was collected, the math department utilized a decision matrix, which allowed teachers to evaluate each program by scoring criteria aligned to the D97 Math Mission Statement and IB Middle Years Program. The table below represents the results of the Middle School Pilot Decision Matrix, which reveals a difference in 19 points between Pearson Connected Mathematics Project 3 and Carnegie Learning Middle School Math Solution.

Middle School Math Pilot Decision Matrix Total Score		
Carnegie	Envision	CMP3
179.0	141.6	198.2

After careful consideration, the teaching and learning department is recommending that District 97 adopt Connected Mathematics Project 3 (CMP3) to be implemented district-wide for grades 6-8 during the 2019-2020 school year. Please review this [compiled research](#) which highlights CMP3's impact on student learning.

### **2019-2020 Projected Budget and Resource Requirements:**

*2019-2020 Projected Budget*

The table below represents a projected budget outlining the anticipated cost for resources and consultant fee for professional learning.

2019-2020 Middle School Math Adoption Projected Budget				
Mathematics Program	Grade Levels	Student Books & Licenses	Professional Learning Consultant Fee	Grand Total
Pearson Connected Mathematics Project 3 (6-year contract)	6th - 8th	Julian - \$113,302  Brooks - \$127,039	Year 1: <ul style="list-style-type: none"> <li>Initial PD - 6,300</li> <li>On-going PD - 18,000</li> <li>Coaching Support - \$9,000</li> </ul>	\$273,641

### *Resource Requirements*

**Resource requirements:** What resources are involved in this implementation/activity? This should include not just direct dollars, but class time, teacher prep/planning time, parental inputs, school facilities drawn from other purposes, etc. How do we reflect on how well they are being put to use, if greater efficiencies are required, or if more resources could profitably be devoted to the activity?

The teaching and learning department will purchase all resources and materials for Connected Mathematics Project 3 and deliver to each school before the start of the 2019-2020 school year. In addition to the projected budget provided, math department chairs will be paid an hourly rate to collaborate with teaching and learning department, middle school principals and IB coordinators to develop the Adoption Plan which will include plans for:

- The initial training for Connected Mathematics Project 3 prior to Fall 2019.
- Ongoing professional learning support for 2-3 years as well as for new teachers.
- In addition to the professional learning that will be provided, the Math Department will develop a scope and sequence for grades 6-8.
- IB Unit plans will be modified to incorporate the adopted curricular resource materials.
- Middle School math teachers will work with external consultant Lisa Westman to develop math differentiation and enrichment units. Ms. Westman will also provide coaching support to teachers during the year.

### **Math Department Next Steps:**

**Evaluation and on-going improvement:** What are the goals of this particular activity - how do we know if it is successful or not? What is the plan for measurement of how implementation is going? What "hard" data will be captured

and what 'soft' data (impressions, opinions, etc.) will be incorporate? What information (not anecdotes) is available at this stage?

This year, all middle school departments focused on the D97 priority of strengthening middle school instruction by revising IB units and assessments. The goal for implementing Connected Mathematics Project 3 is to provide an instructional resource to support student learning and increase students' skills in the area of mathematics. We will measure the impact this program has on students' mathematical skills through NWEA Map, common assessments, teacher surveys, and student surveys.

Beginning in April, the teaching and learning department in collaboration with middle school principals, IB coordinators and math department chairs will develop an Adoption Plan that will include the district-wide implementation of Connected Mathematics Project 3 during the 2019-2020 school year. The Adoption Plan will also consist of a Professional Learning Plan that includes training to support teachers with implementing Connect Mathematics Project 3.

Finally, District 97 would like to sincerely thank the Math Department for dedicating their time to pilot these resources this year.