

CURRICULUM WORKSHOP NIGHT



*MSC's Progressive Approach
To Education*
A Curriculum Workshop Night on
Wednesday, Feb. 8th
5:30 pm to 7:00 pm.

These sessions are sponsored by the
SLT (School Leadership Team).

List of Workshops

***Each workshop is repeated twice:**

Once at 6:00 p.m. and again at 6:30 p.m.

GRADE	TITLE	TEACHER	Room
K – 5th Grade	MSC's Homework Philosophy: A Conversation	<i>Elizabeth Rivera, Claire Lowenstein</i>	<i>6th Floor: Room 617</i>
6 – 8th Grade	Our Secret to Success: How MSC's Middle School Prepares Students for High School and Beyond	<i>Stephanie Douglas, Nicole Peters</i>	<i>6th Floor: Room 616</i>
All Grades	A Tour of our Hydroponic Greenhouse	<i>Shakira Provasoli</i>	<i>3rd Floor: The Greenhouse</i>
K – 3rd Grade/ELA	Understanding Reading Levels and Learning What They Mean	<i>Karen Dunner, Nicole Mehlbrech</i>	<i>3rd Floor: Room 315</i>
K – 2nd Grade/Math	Early Childhood Math at MSC	<i>Gerri Ann Garrelick, Lindsey Simpson</i>	<i>4th Floor: Room 406</i>
3 – 5th Grade/Math	Common Core Math - EngageNY Math Curriculum	<i>Alice Hsu, Jessica Han, Hilary Kaden</i>	<i>4th Floor: Room 420</i>

Childcare with Roads to Success is located in the Basement – Room B17.

Please pick up your children promptly at 7:00 p.m.

The Truth About Homework

Needless Assignments Persist Because of Widespread Misconceptions About Learning

By Alfie Kohn

Para leer este artículo en Español, haga clic [aquí](#).

There's something perversely fascinating about educational policies that are clearly at odds with the available data. Huge schools are still being built even though we know that students tend to fare better in smaller places that lend themselves to the creation of democratic caring communities. Many children who are failed by the academic status quo are forced to repeat a grade even though research shows that this is just about the worst course of action for them. Homework continues to be assigned – in ever greater quantities – despite the absence of evidence that it's necessary or even helpful in most cases.

The dimensions of that last disparity weren't clear to me until I began sifting through the research for a [new book](#). To begin with, I discovered that decades of investigation have failed to turn up any evidence that homework is beneficial for students in elementary school. Even if you regard standardized test results as a useful measure, homework (some versus none, or more versus less) isn't even correlated with higher scores at these ages. The only effect that does show up is more negative attitudes on the part of students who get more assignments.

In [high school](#), some studies do find a correlation between homework and test scores (or grades), but it's usually fairly small and it has a tendency to disappear when more sophisticated statistical controls are applied. Moreover, there's no evidence that higher achievement is due to the homework even when an association does appear. It isn't hard to think of other explanations for why successful students might be in classrooms where more homework is assigned – or why they might spend more time on it than their peers do.

The results of national and international exams raise further doubts. One of many examples is an analysis of 1994 and 1999 Trends in Mathematics and Science Study (TIMSS) data from 50 countries. Researchers David Baker and Gerald Letendre were scarcely able to conceal their surprise when they published their results last year: “Not only did we fail to find any positive relationships,” but “the overall correlations between national average student achievement and national averages in [amount of homework assigned] are all negative.”

Finally, there isn't a shred of evidence to support the widely accepted assumption that homework yields nonacademic benefits for students of any age. The idea that homework teaches good work habits or develops positive character traits (such as self-discipline and independence) could be described as an urban myth except for the fact that it's taken seriously in suburban and rural areas, too.

In short, regardless of one's criteria, there is no reason to think that most students would be at any sort of disadvantage if homework were sharply reduced or even eliminated. Nevertheless, the overwhelming majority of American schools – elementary and secondary, public and private – continue to require their students to work a second shift by bringing academic assignments home. Not only is this requirement accepted uncritically, but

the amount of homework is growing, particularly in the early grades. A large, long-term national survey found that the proportion of six- to-eight-year-old children who reported having homework on a given day had climbed from 34 percent in 1981 to 58 percent in 1997 – and the weekly time spent studying at home more than doubled.

Sandra Hofferth of the University of Maryland, one of the authors of that study, has just released an update based on 2002 data. Now the proportion of young children who had homework on a specific day jumped to 64 percent, and the amount of time they spent on it climbed by another third. The irony here is painful because with younger children the evidence to justify homework isn't merely dubious – it's nonexistent.

*

So why do we do something where the cons (stress, frustration, family conflict, loss of time for other activities, a possible diminution of interest in learning) so clearly outweigh the pros? Possible reasons include a lack of respect for research, a lack of respect for children (implicit in a determination to keep them busy after school), a reluctance to question existing practices, and the top-down pressures to teach more stuff faster in order to pump up test scores so we can chant “We’re number one!”

All these explanations are plausible, but I think there’s also something else responsible for our continuing to feed children this latter-day cod-liver oil. Because many of us believe it’s just common sense that homework would provide academic benefits, we tend to shrug off the failure to find any such benefits. In turn, our belief that homework ought to help is based on some fundamental misunderstandings about learning.

Consider the assumption that homework should be beneficial just because it gives students more time to master a topic or skill. (Plenty of pundits rely on this premise when they call for extending the school day or year. Indeed, homework can be seen as a way of prolonging the school day on the cheap.) Unfortunately, this reasoning turns out to be woefully simplistic. Back “when experimental psychologists mainly studied words and nonsense syllables, it was thought that learning inevitably depended upon time,” reading researcher Richard C. Anderson and his colleagues explain. But “subsequent research suggests that this belief is false.”

The statement “People need time to learn things” is true, of course, but it doesn’t tell us much of practical value. On the other hand, the assertion “More time usually leads to better learning” is considerably more interesting. It’s also demonstrably untrue, however, because there are enough cases where more time doesn’t lead to better learning.

In fact, more hours are least likely to produce better outcomes when understanding or creativity is involved. Anderson and his associates found that when children are taught to read by focusing on the meaning of the text (rather than primarily on phonetic skills), their learning does “not depend on amount of instructional time.” In math, too, as another group of researchers discovered, time on task is directly correlated to achievement only if both the activity and the outcome measure are focused on rote recall as opposed to problem solving.

Carole Ames of Michigan State University points out that it isn’t “quantitative changes in behavior” – such as requiring students to spend more hours in front of books or worksheets – that help children learn better. Rather, it’s “qualitative changes in the ways students view themselves in relation to the task, engage in the process of learning, and then respond to the learning activities and situation.” In turn, these attitudes and responses emerge from the way teachers think about learning and, as a result, how they organize their classrooms. Assigning homework is unlikely to have a positive effect on any of these variables. We might say that education is less about how much the teacher covers than about what students can be helped to discover – and more time won’t help to bring about that shift.

Alongside an overemphasis on time is the widely held belief that homework “reinforces” the skills that students have learned – or, rather, have been taught — in class. But what exactly does this mean? It wouldn’t make sense to say “Keep practicing until you understand” because practicing doesn’t create understanding – just as giving kids a deadline doesn’t teach time-management skills. What might make sense is to say “Keep practicing until what you’re doing becomes automatic.” But what kinds of proficiencies lend themselves to this sort of improvement?

The answer is behavioral responses. Expertise in tennis requires lots of practice; it's hard to improve your swing without spending a lot of time on the court. But to cite an example like that to justify homework is an example of what philosophers call begging the question. It assumes precisely what has to be proved, which is that intellectual pursuits are like tennis.

The assumption that they are analogous derives from behaviorism, which is the source of the verb "reinforce" as well as the basis of an attenuated view of learning. In the 1920s and '30s, when John B. Watson was formulating his theory that would come to dominate education, a much less famous researcher named William Brownell was challenging the drill-and-practice approach to mathematics that had already taken root. "If one is to be successful in quantitative thinking, one needs a fund of meanings, not a myriad of 'automatic responses,'" he wrote. "Drill does not develop meanings. Repetition does not lead to understandings." In fact, if "arithmetic becomes meaningful, it becomes so in spite of drill."

Brownell's insights have been enriched by a long line of research demonstrating that the behaviorist model is, if you'll excuse the expression, deeply superficial. People spend their lives actively constructing theories about how the world works, and then reconstructing them in light of new evidence. Lots of practice can help some students get better at remembering an answer, but not to get better at – or even accustomed to — thinking. And even when they do acquire an academic skill through practice, the way they acquire it should give us pause. As psychologist Ellen Langer has shown, "When we drill ourselves in a certain skill so that it becomes second nature," we may come to perform that skill "mindlessly," locking us into patterns and procedures that are less than ideal.

But even if practice is sometimes useful, we're not entitled to conclude that homework of this type works for most students. It isn't of any use for those who don't understand what they're doing. Such homework makes them feel stupid; gets them accustomed to doing things the wrong way (because what's really "reinforced" are mistaken assumptions); and teaches them to conceal what they don't know. At the same time, other students in the same class already have the skill down cold, so further practice for them is a waste of time. You've got some kids, then, who don't need the practice and others who can't use it.

Furthermore, even if practice was helpful for most students, that doesn't mean they need to do it at home. In my research I found a number of superb teachers (at different grade levels and with diverse instructional styles) who rarely, if ever, found it necessary to assign homework. Some not only didn't feel a need to make students read, write, or do math at home; they preferred to have students do these things during class where it was possible to observe, guide, and discuss.

Finally, any theoretical benefit of practice homework must be weighed against the effect it has on students' interest in learning. If slogging through worksheets dampens one's desire to read or think, surely that wouldn't be worth an incremental improvement in skills. And when an activity feels like drudgery, the quality of learning tends to suffer, too. That so many children regard homework as something to finish as quickly as possible – or even as a significant source of stress — helps to explain why it appears not to offer any academic advantage even for those who obediently sit down and complete the tasks they've been assigned. All that research showing little value to homework may not be so surprising after all.

Supporters of homework rarely look at things from the student's point of view, though; instead, kids are regarded as inert objects to be acted on: Make them practice and they'll get better. My argument isn't just that this viewpoint is disrespectful, or that it's a residue of an outdated stimulus-response psychology. I'm also suggesting it's counterproductive. Children cannot be made to acquire skills. They aren't vending machines such that we put in more homework and get out more learning.

But just such misconceptions are pervasive in all sorts of neighborhoods, and they're held by parents, teachers, and researchers alike. It's these beliefs that make it so hard even to question the policy of assigning regular homework. We can be shown the paucity of supporting evidence and it won't have any impact if we're wedded to folk wisdom ("practice makes perfect"; more time equals better results).

On the other hand, the more we learn about learning, the more willing we may be to challenge the idea that homework has to be part of schooling.

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MSC graduates are attending...

Beacon High School
LaGuardia High School
High School of Math, Science, and Engineering
Brooklyn Tech
Millennium High School
School of the Future
Eleanor Roosevelt High School
Lab School
Bard
Steinhart
Special Music School
Frank McCourt
... and more!

How does Manhattan School for Children prepare its students to be successful in high school?

What does it mean to be "high school ready"?

What systems does MSC have in place to make students stand out in the applicant pool?

How can parents empower their middle schoolers while teaching them independence?

Answers to those questions and more in an interactive and engaging workshop with middle school teachers
Stephanie Douglas and Nicki Peters.

Our Secret to Success: How MSC's Middle School Prepares Students for High School and Beyond

	Systems	School skills	Life skills	Self Advocacy	Content
Online grading platform (iLearn)					
Cloud technology (Google Drive)					
Choice in what works "best" - pencil, writing process...					
Cornell note-taking					
Document-Based Questions (DBQs)					
"Reading the World" - interacting with all types of texts					
Defending positions					
Transference					
Student Showcases					
HS mock interviews					
HS essay support					
Self advocacy					
Office hours					
Homework					
Advisory					
Regents classes					
Arts opportunities					
Arts portfolios					

In our greenhouse we do not plant in soil. Instead, we plant in sterile planting substrates and add nutrients to the water for our hydroponic systems, or allow the fish waste to eventually provide nutrients for the aquaponic system.

For both types of gardening, we use rainwater, which we harvest from our roof. This is fed directly into the hydroponic water reservoirs. The systems continuously reuse the water until it is time to dump the nutrient water every 6 weeks.



We partnered with New York Sun Works to build and maintain our hydroponic rooftop greenhouse. NYSunworks is dedicated to improving K through 12 grade Environmental Science Education in NYC public schools through a hands-on integrated curriculum and professional development.



info@nysunworks.org

Parent Workshop
February 8, 2017



A tour of our
greenhouse with
Shakira Provasoli

Environmental Science Teacher
Manhattan School For Children,
shakira@ps333.org

Planting Seeds

When it comes to hydroponic planting, you must select a sterile medium that will support the seed and offer it a place to hold onto during the germination process. Hydroponic media includes: perlite, hydraton, coconut coir, composted tree bark, and the most popular, rockwool, which is known for supporting germination well. Rockwool is a basalt rock heated to about 1600 degrees, and then spun out into fibers like cotton candy. It provides no nutrients to the plants.

Today you will plant 2 seeds into each hole in a row of rockwool. Depending on the type of plant, your child might be eating it in 6 weeks! When the plant shows its first true leaves we add a few drops of nutrient mixture to the water near the roots. As it gets bigger we add more nutrient water, and then we transplant it into a larger system



Water Testing

It is crucial to test the pH and the nutrient levels of hydroponic systems on a daily basis. The plants are only able to receive the proper nutrients if the pH is at about 6.3. If the pH is too high or too low, the roots are not able to absorb the essential macronutrients necessary for growth. On a similar note, if the level of nutrients is too low, the plant may struggle to produce food.

Use the pH indicator drops to test the pH of the hydroponic water. You are hoping for a light greenish yellow, which indicates a pH level of 6.3. What did you get? _____

Use the EC meter to test the level of nutrients. Put the tip into the water until you see the numbers stop moving. What nutrient level did you get? _____

In addition, the water in the aquaponics tank must be monitored daily. The fish waste releases toxic ammonia into the water. Natural bacteria in our biofilter change the ammonia to nitrite, and then to nitrate, which is healthy for the plants. Today you may test for the ammonia, or the nitrite or the nitrate. Which one did you test, and what levels did you find? _____



Building An Independent Reader



Level A & B

Readers are using meaning and structure to read, not phonological cues.

Guidelines for readers include:

1. Using the picture as source of information
2. Need to be working on one to one match
3. Directionality (read left to right)
4. Know a handful of sight words
5. Can continue a pattern after reading the first page

Level C & D

Similar to A & B Levels, but now unknown words need to be something the reader can figure out graphophonological cues (or using beginning and ending letters).

Guidelines for readers include:

1. Beginning to decode
2. Level D books have longer patterns and more sight words

Level E

Guidelines for readers include:

1. Looking through the word to begin chunking words (ex: p-ark=park)
2. Build comprehension
3. Begins to read with fluency and phrasing
4. Tracks print with eyes, using finger only and points of difficulty

Level F & G

Guidelines for readers include:

1. Building stronger comprehension skills
2. Figuring out difficult vocabulary
3. Begins to monitor and self-correct errors
4. Retells keeping story events in order to analyze story
5. Continues to build fluency and phrasing

Level H & I

Guidelines for readers include:

1. Developing inferencing skills.
2. Envision the story to compensate for low picture support
3. Keep the accumulating story events in mind
4. Read with fluency

JKLM

- Character has one clear problem that needs to be solved
- Character has clear, mostly unchanging character traits
- The title of the book often tells you about the main character or problem
- Supporting characters are simple and not fully developed

NOPQ

- Character has more than one clear problem
- The main character is complex -> their traits change as you read the story
- There are tricky phrases and passages
- There is figurative language
- There are subplots or side stories
- Your thoughts as a reader should change as you read

Presented to you by:
Karen Dunner
&
Nicole Melhbrech

How you can support your child's reading

- Share your reading life
- Ask about theirs
- Interact with your child's Reading Notebook
- Designate reading time and space
- Ask specific questions around appropriate reading level/genre
- Read something together or read to each other
- Create and maintain a print-rich environment
- A family trip to the library or the book store - rewards!
- Choosing reading over other options
- Borrow books from my in-class library! Happy to give you a tour~

Early Childhood Math at MSC

MSC's Progressive Approach To Education | Curriculum Workshop 2017

What is Engage NY?

EngageNY is a Common Core aligned math curriculum created by the New York State Education Department. Lessons are designed to be adaptable so that teachers can meet student needs while still aligning to the Common Core. Opportunity for repeated practice is emphasized in each module of the EngageNY curriculum.

Big Math Ideas in Early Childhood

Decomposition

- Smaller numbers are embedded within larger numbers
- You can break a number into parts (basic addition)
- Breaking apart two digit numbers strengthens student recognition and understanding of place value
- Place value plays an important role in addition, subtraction and multiplication building blocks

Fluency

- Automatic recall of basic facts strengthens students ability to both decompose numbers **and** solve more complex number operations

Efficient Strategies

- Students explore a number of strategies (counting on, decomposing numbers, looking for friendly groupings) to problem solve quickly and accurately

Process

- Students first make sense of math problems or tasks
- They determine a strategy
- They persevere in solving the problem
- They **explain** their thinking

Math Language and Tools:

Rekenrek (Math Rack)

A base 10 tool, used to aid in addition and subtraction to 20



Tens Frame

A base 10 tool, used to decompose and recognize groups of ten and parts within ten

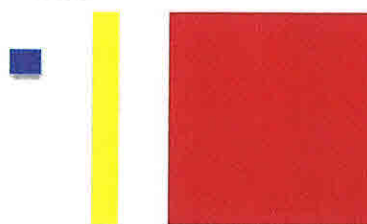


Place Value Chart

An extension of place value, ten base organization of larger numbers

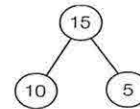
Hundreds	Tens	Ones

Base 10 Blocks A manipulative used to decompose larger numbers into hundreds, tens, and ones



Number Bonds | Tape Diagrams

A way of representing the part-part-whole relationship between numbers



Equation | Number Sentence A numerical representation of a math story problem

Susan had 14 cookies. She gave 9 to Jacob. How many cookies does she have now? $14 - 9 = 5$

See reverse side for tips to help your child with math at home!

Kinder/First Grade Tips for Home

- Keep it fun! Play games.
- Draw pictures to make sense of the problems
- Have your child explain their thinking
"How did you get that?"
"What helped you?"
- Know the strategies they are working on and keep a chart near by
- Let kids grapple with a math problem using blank paper

JUST THE FACTS:

Learning basic math facts helps children to be more fluent problem solvers. Practice these:

Doubles (serve as anchor facts): $1+1=2$, $2+2=4$

Doubles +1: $6+7$ is just $6+6+1$

Combinations of ten: $2+8$, $1+9$

Plus 10: $4+10=14$, $5+10=15$, $22+10=32$

Plus 9: see $6+9$, think $6+10-1$ OR
see $6+9$, turn into $5+10$

Hidden helpers: find the hidden ten or double

$7+5=?$	$5 + 5 + 2$ or $6 + 6$	$7 + 3 + 2$
$6+8=?$	$6 + 6 + 2$ or $7 + 7$	$6 + 4 + 4$ or $8 + 2 + 4$

SOME MODELS/STRATEGIES TO KNOW:

Addition:

- *Counting all and on
- *Decompose and Add by Place Value
- *Make a 10 and Add Some
- *Use a number line to get to a benchmark number

Subtraction:

- *Draw and cross out
- *Take from ten
- *"Base Ten Sticks"
- *Take Out 10 & Subtract
- *Decompose and Subtract by Place Value

READ, DRAW, WRITE

The RDW approach should be used whenever students are faced with a story problem. Remind your child that they need to do three things: pull out the essential information needed, mathematically represent their thinking using an efficient strategy, and explain with words what they did/how they know.

Second Grade Tips for Home

A lot of the work done in 2nd grade builds off the understanding of the number 10 learned in 1st grade, as well as the fluency of "10 Facts". This helps students move into greater understanding of place value and how numbers fit together in various contexts.

When working with students at home, the most important question to ask is: "HOW DO YOU KNOW?"

Questions to Ask to Support Your Child's Math Thinking:

What makes you say that?

What makes you think that?

Explain your thinking to me.

What's another way to do that?

- *How did you do that?
- *What helped you solve the problem?
- *This is confusing... Let's read it again.
- *What is happening? Retell it.

MAKING SENSE OF COMMON CORE MATH

Understanding EngageNY Math in Grades 3-5 | Curriculum Workshop 2017

Presented by: Alice Hsu (3rd), Jessica Han (4th), & Hilary Kaden (5th)

What is EngageNY?

EngageNY is a Common Core-aligned math curriculum created by the New York State Education Department. Lessons are designed to be adaptable so that teachers can meet student needs while still aligning to the Common Core. Opportunity for repeated practice is emphasized in each module of the

EngageNY curriculum. A Story of Units (EngageNY's curriculum map) is designed to help students understand how to choose and apply concepts of mathematics to solve problems. To achieve this, the modules include mathematical tools and diagrams that aid problem solving.

You can access the entire curriculum at:
www.engageny.org

Ways to Support Your Child's Math Life and Growth:

- Help your child build fluency by constantly reviewing "snap facts" using flash cards and/or sprints (you can find all the sprints online)
- Keep it fun by playing games! Find simple math games online, or ask your child's teacher for some suggestions
- Know the strategies your child is working on and keep a chart nearby (have your child make their own anchor chart for home)
- Bring math into everyday real-world contexts as often as possible

Have your child explain their thinking by asking:

- *How do you know?
- *How did you do that?
- *What makes you think that?
- *What helped you solve the problem?
- *What's another way to do that?

How does it meet the needs of all students?

- Because students across all grades are using the same curriculum, they are becoming familiar with the terminology, approaches, and models that carry over from one grade to the next
- Teachers group students in a variety of ways, including station teaching, coach/rookie partnerships, and peer partnerships
- Because the EngageNY curriculum is on a continuum, teachers can access materials and lessons across grades in order to meet students who are working at different levels

Elements of an EngageNY Math Lesson

- Fluency practice in the form of sprints
- Single-step word problems that help students understand the meaning of a particular concept
- Multi-step word problems that support instructional concepts and allow for cross-pollination of multiple concepts into a single problem
- Exploratory tasks designed to encourage students to approach problems using multiple strategies and solution paths

Shifts in Math Thinking: Students Must...

- Spend time practicing—lots of problems on the same idea
- Understand why the math works, make the math work, talk about why the math works, & prove that they know why and how the math works
- Apply math in real world situations
- Know which math to use for which situation

WORD PROBLEMS & CONSTRUCTED RESPONSE QUESTIONS:

When faced with single- or multi-step word problems, students should follow a basic 5-step approach to answer the question:

- Read the question carefully and pull out important information
- Ask, "What's the question asking?"
- Think, "What do I know? What do I need to figure out?"
- Model a strategy
- Explain your thinking with words

