

Describe at least one "take-away" from the response data (i.e., something that may help you to better serve your students).	What did you find most surprising from the other teacher responses in last week's Google Form?	List the three components of rigor in mathematics as defined by the Louisiana Department of Education.
Paying closer attention to basic math skills	Most of the problems with upper level math result from a lack of foundation in lower level maths.	Conceptual Understanding, Procedural Skill and Fluency, and Application
I like the idea of using the phrase "You tell me" at least keeping that in mind to help students understand concepts instead of steps. I would also like to know more about this flow chart for learning how to break down radicals.	Nothing. I expected we were all experiencing many of the same frustrations about student learning, and we are. Students are not understanding concepts, and therefore are not gaining tools they can use in other math problems.	Conceptual understanding, procedural skill and fluency, applications
Organizing the data from teachers' responses will help us to understand from where the students are coming AND to where the students are going (in mathematical knowledge.)	Difficulty with slope	1. Conceptual Understanding; 2. Procedural Skill and Fluency; 3. Application
We all are looking for improvements	The bitterness	Conceptual, Procedural Skill and Fluency, Application
building critical thinking skills with all students	I was not really surprised with any of the comments because over the years I have encountered most of the same problems teaching the various topics mentioned in 1a.	conceptual understanding, procedural skill and fluency, and application
Help them to build critical thinking skills.	Students continue to struggle with basic functions and foundations of mathematics.	Conceptual Understanding Procedural Skill and Fluency Application
Correlation with real world data	Refusal to teach the FOIL method!	Conceptual Understanding, Procedural Skill and Fluency, Application
In several cases, I noticed that using real world experiences seems to be the recommended method of teaching topics that are hard for students to grasp.	Some of the suggested ways of teaching are some I already use.	Conceptual understanding, Procedural skill and fluency, and Application
Making sure to practice the keystrokes with the students	My students do not like to use Algebra Tiles, so I found it interesting that other teachers find them helpful. I may be using them incorrectly.	Conceptual Understanding, Procedural Skill and Fluency, and Application
Explicit teaching roles in the 9T program: who is responsible for what. When planning for this class, since I was hired in a co-teaching position with a special needs group, I came into the position with one idea. The administration has confirmed that we should be Co-Teaching. However, now a semester is over, and nothing has changed. It's a one teacher class. I feel like it is just as bad in our English class, and thus the position will be open in January.	There are several inconsistencies in the parish curriculum.	paraphrased ... Computation in real world situations; algorithms to use in what instance; advanced vocabulary, subject specific
giving students real data/life examples	Teachers stating you tell me and having no foundation.	conceptual understanding, procedural skill and fluency and application
Not teaching the "FOIL method"-- just teaching them it's repeated distribution. This way, students can use it for more than just multiplying binomials.	That so many students struggle with factoring-- I find that it's one topic I enjoy teaching, and students seem to catch on with a lot of practice.	Conceptual Understanding, Procedural Skill and Fluency, and Application.
Finding out what other students are struggling with helps me to better aide my students by reviewing what others are struggling with to head off the problems and it gets me ready for their questions.	How most of the teachers teach that they find as an ineffective way of teaching	Conceptual understanding, Procedural skill and fluency, and Application
I think we all have problems with the same areas	That there is a varied list of items.	Conceptual Understanding,Procedural Skill and Fluency,Application
I used same method. Keep reviewing over and over. It has been really difficult for me to teach Adv. Math or Pre-Cal because I must review from middle school level to high school level.	It seems like I am not the only one who struggle with students, especially math.	Algebra 2 standard covers mainly about quadratic function.

<p>The inclusion of "Procedural Skill and Fluency" in the state's components of rigor surprised many educators. Why do you think it was included as a component of rigor?</p>	<p>How would you explain to a new teacher the differences between "major", "supporting", and "additional" standards?</p>	<p>Describe what it means for a student to understand this standard "conceptually".</p>
<p>Simply put, you can't do high-level math if basic operations and fractions are a struggle for you.</p>	<p>Major are the things students have to know to be successful. Additional are the things that enhance the basic level, like something you would cover in an advanced or honors class but not general. Additional are the standards that you save for extra time in the year, if there is any.</p>	<p>The student can make estimations based on a given set of data.</p>
<p>Students are not practicing the skills they are learning, which aids in learning the idea conceptually. It's a package.</p>	<p>Identify what you want students to learn at the end of the lesson - that's the major standard. What do students need to know before achieving the major standard? Those are probably the supporting and additional standards.</p>	<p>They can use their new "tool" and apply it to other types of problems.</p>
<p>"Students' [abilities] to solve more complex application tasks [are] dependent on procedural skill and fluency." (Highly qualified educators have said this for years.)</p>	<p>"Major" standards are those standards that students must show adequate proficiency in each grade. "Supporting" standards are those standards which lead to and "support" the goals of the major standards. "Additional" standards are those standard that help to engage students in meeting the goals of the major and supporting standards.</p>	<p>Statistics and Probability: Making Inferences and Justifying Conclusions □ (S-IC) Make inferences and justify conclusions from sample surveys, experiments, and observational studies. (Copied.) Students must be proficient at making inferences and justifying their conclusions in surveys, experiments and in observational students.</p>
<p>Speed and accuracy were noted in the explanation. Both needed for standardized tests.</p>	<p>Major standards are the concepts, Supporting would be the drills used to teach the Major, Additional are variations that can be tied into teaching the Major.</p>	<p>The concepts are the ideas. They understand the why but maybe not the how.</p>
<p>Knowledge is built upon basic functions. All previous learning is used to build to the next level and expand knowledge. An explanation of this process would be that some students are placed from 6th grade math to 8th grade math or algebra I. This doesn't work because many skills are completely missed when this happens. They are doomed.</p>	<p>essential-major necessary-supporting expansive--additional</p>	<p>It would mean that they understand how the problem could be applied to a real world situation.</p>
<p>Knowledge is built upon a foundation of basic functions. Those basics must be mastered in order to expand understanding.</p>	<p>Essential, necessary and expansive</p>	<p>That they are able to apply the concept in real world scenarios and can manipulate the idea to the point of mastery.</p>
<p>It's important that students are able to utilize a variety of methods/approaches to solving problems in order to assess which is the most efficient approach to a particular problem that will ensure accuracy along with speed.</p>	<p>Major are the basic standards needed for development of an essential concepts Supporting are standards that can expand/support the basic concepts to further understanding Additional can be enrichment and/or extensions/applications of the concepts</p>	<p>The student doesn't just have a rote memorization of rules, but an understanding of how the rules were obtained and how, where, and when it is to be applied.</p>
<p>Over the years, students have not been made to memorize certain rules in mathematics. We have discovered that this was detrimental to their future learning.</p>	<p>Major standards are those big rocks that MUST be taught to mastery in your class. The supporting standards do just that. They support the major standards. Without the supporting standards, it's difficult to move to the major standards. Additional standards are those extra topics that we can include for students as enrichment or for the students are ahead of the pack.</p>	<p>It means that students understand the usefulness of the skill.</p>

Because many math problems require you to perform multiple steps and understand the progression of those steps.	You should spend the most time on major standards, then supporting standards, and then additional standards should be used as enrichment.	Understand the meanings behind tables, charts, and other data.
Students graduate from HS and can not perform in the job market and society in general where math skills are involved.	Got to be done (whether kids have prior knowledge or not); this will help you do it (should not be foreign to kids, they have some knowledge); if you have time and can cover this ...	The student knows the how and why, not just following steps to get an answer.
standards specify grade-level appropriate strategies in which students should demonstrate fluency and teachers should understand that some procedures will take longer than others.	Major work being work that will aid the student in passing and being able to complete the next level of math. Supporting work would include documents that support what the student is learning at the time and additional work should be provided in order to aid the student to pass and learn.	understanding mathematical concepts, operations and relations.
It is necessary to understand basic math facts and procedures in order to apply math and create conceptual understanding at a higher level.	Spend most of your time and emphasis on major standards. However, do not neglect the supporting and additional standards because it will create gaps.	It means the student understands beyond small, isolated facts. It means being able to see the larger context while connecting ideas and concepts.
Because if the students do not know how to perform the skill and get better at it which goes to fluency. The students will struggle with the application.	By looking at an example given by the state for the year our Green is Major areas (THE HAVE TO), Blue is the supporting standards (THE MAY NEED TO INCLUDE) and Yellow is additional standards (THE MAY WANT TO IF TIME PERMITS), with the white being the areas that are possible GAPS (RTI AREA WHERE SOME STUDENTS MAY NEED TO WORK ON)	For the student to be able to read a table with data and analyze the data to answer questions given based on that data.
A student must not only possess the skill but recognize how and when to apply it.	major is what they should learn and spend the majority of their time, supporting is next and then additional is any remediation they need.	It is be able to recognize when to use what steps or algorithm to solve a problem.
You can never succeed higher math without proper procedural skill and fluency	Major standard is you must teach and students fully understand it. Supporting Standard is you don't have to, but it will be great for student if they get it.	n

<p>Describe what a test item might look like that determines whether or not a student understands this standard "conceptually".</p>	<p>Conceptual understanding has not typically been a part of traditional math instruction. It should not be surprising, then, that many math teachers today at all grade levels are struggling to bring this level of learning to their students in an effective manner. List and describe at least two instructional strategies teachers might use to help students gain conceptual understanding of a particular math topic.</p>
<p>Given a chart showing values at specific time stamps, estimate what the value would be at a time stamp in between two given time stamps.</p>	<p>Real world examples and projects using research.</p>
<p>A question that may be worded differently than they might have seen, but includes tools and skills they should have at that point in their math career.</p>	<p>Asking students to describe a skill, or why it works, or how it works. Providing real data in various forms for students to analyze.</p>
<p>Contextual situations that require students to determine the correct mathematical model and use the model to solve problems are essential. Example: Read the article below from NPR.org then answer the following questions. Kids and Screen Time: What Does the Research Say? By Juana Summers August 28, 2014 Kids are spending more time than ever in front of screens, and it may be inhibiting their ability to recognize emotions, according to new research out of the University of California, Los Angeles. The study, published in the journal Computers in Human Behavior, found that sixth-graders who went five days without exposure to technology were significantly better at reading human emotions than kids who had regular access to phones, televisions and computers. The UCLA researchers studied two groups of sixth-graders from a Southern California public school. One group was sent to the Pali Institute, an outdoor education camp in Running Springs, Calif., where the kids had no access to electronic devices. For the other group, it was life as usual. At the beginning and end of the five-day study period, both groups of kids were shown images of nearly 50 faces and asked to identify the feelings being modeled. Researchers found that the students who went to camp scored significantly higher when it came to reading facial emotions or other nonverbal cues than the students who continued to have access to their media devices. "We were pleased to get an effect after five days," says Patricia Greenfield, a senior author of the study and a distinguished professor of psychology at UCLA. "We found that the kids who had been to camp without any screens but with lots of those opportunities and necessities for interacting with other people in person improved significantly more." If the study were to be expanded, Greenfield says, she'd like to test the students at camp a third time — when they've been back at home with smartphones and tablets in their hands for five days. "It might mean they would lose those skills if they weren't maintaining continual face-to-face interaction," she says. a. Was this an experiment or an observational study? b. What can you conclude? c. Are there any limitations or concerns with this statistical study? (Copied.)</p>	<p>1. A webquest may be used to introduce the first "non-line," the parabola. Questions can be formulated about the structure of the graphs of several parabolas and relate the graphs to the concept of standard form, vertex form, whether the graph opens upward or downward, how "wide" or "skinny" the curve is, how the graph intersects the axes -- and the "why" behind all of these and more.</p> <p>2. Students can prepare surveys about topics about which they are interested and survey students on the campus. Then they can complete frequency charts, graphs (of different types.)</p> <p>BIE.org is a website that helps with project-based learning. http://www.bie.org/project_search</p>
<p>Constructed Response answers or steps to answers.</p>	<p>Activities or videos. Something that students can do the how part.</p>
<p>x</p>	<p>x</p>
<p>x</p>	<p>x</p>
<p>1) Use the mean and standard deviation to show a normal distribution in order to generate reports. 2) Use the data to find a line/curve of best fit in order to predict projections of future data.</p>	<p>1) Collection of real world data that is of interest to the students 2) Representation of the collected data in a variety of ways</p>

<p>A problem where a student has to explain the process to get the solution instead of simply solving it.</p>	<p>1) One strategy I incorporated into my lesson this week was to take students out to measure tall objects using trigonometry. We work word problems all the time but this time they had to take their own measurements and do the calculations. It helped students realize that the math we are doing can be useful outside of the classroom.</p> <p>2) Using the KWL chart will help determine what students already know and what they need to know</p>
<p>Scientists were interested in testing a new technique to prevent slipping on ice: wearing socks over boots! 500500500 volunteers were randomly assigned to two groups. Both groups were asked to walk downhill on an icy road. One group simply wore boots, while the other group wore socks over their boots. All boots and socks were supplied by the scientists. Once downhill, the participants were asked to indicate the number of times they slipped. Then, the scientists compared the average "slipperiness" score of each group.</p> <p>What type of statistical study did the scientists use?</p>	<p>Scaffolding and Multiple Representations</p>
<p>multiple steps to complete the thought process and determine the answer</p>	<p>Skill and drill are extinct. The use of puzzles, patterns, current situations in society, etc ... to give relevance to math. Hand on and active; make things, follow directions to complete a process (project or problem). And, time management. My kids are so busy and involved, they do not watch the clock and wait to leave.</p> <p>Discipline ... I do not overlook it. No sleeping, or stand up. No phones, I take them up. Do it and we will all be happier. NO exceptions. And it works.</p> <p>Attendance. I am here everyday, you should be too. You miss something ...</p>
<p>$6v(2v - 3)$</p>	<p>clear examples, use of technology</p>
<p>The test item might be multi-part with a series of questions that build on each other and are connected to prior knowledge. It requires more than just an isolated skill.</p>	<p>Explaining answers to math questions using words.</p> <p>Working with a partner to have a verbal conversation regarding math problems.</p>
<p>If the student does not answer the question correctly based on the data would tell the student either does not understand the standard or may not know how to read the table.</p>	<p>First bring in a real world example where this is used.</p> <p>Second have classroom discussions on what they see and how we see it.</p>
<p>It would be a word problem where they must recognize the process to use to solve it.</p>	<p>Use real world examples, lots of word problems and explain to students how it pertains to real world so they can "attach" meaning to it. Not just teach the skills.</p>
<p>n</p>	<p>n</p>

Please provide any other comments you have at this time. Your input (positive or negative) is greatly appreciated!

The more practical we can make a subject, the easier it is for students to understand it. Students understand fractions a lot better when they're measuring cuts in shop class than when they are looking at random lines on a test paper.

I thought reading other teachers' responses were helpful.

Because ACT is a percentage of our SIS, we need to share strategies with students BEFORE Algebra II. The framework is great conceptually, but we also need to prepare students to be timed, when to use a calculator (or not,) how to scan passages for relevant information, and how to work from the answers backward (when necessary.)

x

None

I realize my students may be out of school at any given time. I could be the last teacher trying to motivate them and prepare them for adulthood. Therefore, I need my kids to be employable. Yes, they need help, care, discipline and I hope they realize that the reason for the structure and non-negotiables are in their best interest. Come to math. Learn. Take something with you everyday, even if it is just a memory. Leave something for the class ... not a mess, or bad thought ... but something positive. Work for it!! Then the math and rigor fall right into place. Because the lessons are meaningful and involved. On purpose with a purpose. Deliberately, everyday.

none at this time

none

Sorry for being late with this one. Thanks for the chance to reflect and learn from others.

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