

High School Math Update

ROE 10

Joyce Bishop

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Recent News From . . .

- Math Common Core Alignment Meeting at LLCC
9/18/13
- Webinar: ISBE Math Model Curriculum Assessments
and Lessons 9/26/13
- ICTM Preconference and Annual Meeting 10/17/13 –
10/19/13
- Emails, contacts

News from LLCC

- LLCC has created a new course that addresses the goals of the Common Core
- Text is *Math Lit: A Pathway to College Mathematics* by Kathleen Almy and Heather Foes
- 4 units; each is integrated to develop some concepts & skills in the areas of numeracy, algebraic reasoning, proportional reasoning, and functions.
- Goal is depth over breadth.

News from LLCC

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- About 75% of LLCC students need at least some remediation in mathematics.
- Part of this may be due to the fact that students are not savvy about taking their placement exam: They don't take the exam seriously or they don't take 4 years of math and they're rusty.

Recommendation: Take 4 years of math or take the placement exam after student has completed three years of math or use the review on the LLCC website.

News from LLCC

LLCC remedial math classes have a lecture component and a required lab component where students must do assignments in a supervised setting.

Students have the option of taking an exam midterm to earn the right to proficiency out of the remedial class.

News from LLCC

From the Teachers' Roundtable at the meeting I attended, it appears that some districts are teaching Math I, Math II, and Math III, but not an overwhelming majority.

Many – wait and see

Jerseyville is using an integrated curriculum and their scores have been high.

LLCC on Math I, Math II, and Math III

- From an Admissions standpoint, when students have Math I, Math II, and Math III on their transcript, Admissions will contact the district to learn exactly what is in their courses.
- One LLCC instructor's point of view: the Math I, II, III sequence may **not** provide the skills needed for advanced mathematics.
- Revelation! – Not all students need advanced mathematics.

LLCC reports on a recent study

- From National Center on Education and the Economy
- Sampled data from 7 community colleges in 7 states
- Examined the mathematics in initial credit bearing courses in the most popular programs.
- Findings: “Most program courses at the 101 level require very modest doses of mathematics, and what they do require is mostly middle school mathematics...”

Recent Study, cont.

- Students' command of middle school mathematics concepts is weak.
- Recommendation: Don't rush through middle school mathematics; leave Algebra I as late as sophomore year.

Recent Study, cont.

Many community college programs need
mathematical modeling,
statistics and probability,
complex measurement,
schematics,
geometric visualization,
but these are not being taught in most schools.

More information is available at www.ncee.org.

ISBE Webinar

- ISBE Math Model Curriculum Assessment and Lessons
- Model curriculum was mandated by our legislature.
- High school model curriculum follows Math I, Math II, Math III format because districts using that format may have a more difficult time finding resources.
- http://www.isbe.net/common_core/htmls/math-models.htm

ISBE Webinar

- ISBE responded to requests from teachers by developing assessments of the standards and then creating lessons to help students succeed at the assessments.
- Is a work in progress. The goal is to have all tools out this year, including a model multi-day lesson for each unit.
- www.livebinders.com/play/play?id=953710

ISBE Webinar

Color Coding on unit maps for model curriculum:

Green: Priority Standard – 70% of PARCC assessment will address this content.

Blue: Supporting Standard – May often be incorporated into work on Priority content.

Yellow: Additional Standard – May be reserved for late in the school year after PARCC.

Example: Scope and Sequence

<http://www.livebinders.com/play/play?id=953710#anchor>

ISBE Webinar

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- No, ISBE provides a structure for districts to tailor to their own programs if they wish.
- The curriculum models will be updated as we go along.
- The models are intended to transcend the use of textbooks.

ICTM Preconference and Annual Meeting

Next two years ICTM will meet in Tinley Park.

More on ISBE model curriculum: Illinois is one of the few states that is well-aligned with PARCC because we started late and more PARCC information was available. This is especially true of Math II and III.

Documents on LiveBinder will include samples of student work - below grade level, at grade level, and above grade level.

ICTM Preconference and Annual Meeting

Partnership for the Assessment of Readiness for College and Careers (PARCC) Update

- www.parcconline.org/high-school
- New items were released November 2013. Previous items were in pdf form. New items are technologically enhanced.
- There will be calculator and non-calculator sections, but likely non-CAS. High School students will use an online calculator similar to a TI-84 graphing calculator.

ICTM Preconference and Annual Meeting

PARCC Update

Of the four PARCC assessments, Illinois will participate in two:

- Performance-Based Assessment when $\frac{3}{4}$ of school year is completed.
- End-of-Year Assessment when 90% of school year is completed.

ICTM Preconference and Annual Meeting

PARCC Update

Claims of PARCC Assessments

- Claim A – major content of green clusters
- Claim B – supporting and additional clusters
- Claim C – reasoning
- Claim D – modeling
- Claim E – fluency in grades 3-6

ICTM Preconference and Annual Meeting

PARCC Task Types

- Type 1: entirely machine scored multiple choice, multiple selection

Subclaims: A, B, E (Standards, fluency)

- Type 2: machine-scored and hand-scored; open-ended, Subclaim: C (reasoning)

- Type 3: machine and hand scored. Open-ended. Students have to make assumptions.

Subclaim D: (modeling)

All Type 2 and Type 3 problems are on the calculator portion of the test.

ICTM Preconference and Annual Meeting

PARCC Field Test

- Approximately 10% of population will take some portion of field test.
- No student will take the entire assessment.
- One purpose of field test is to get a sense of timing.
- Approx. 2 ½ minutes per item is allowed. If needed, can add an additional 25 minutes.
- Anticipate 65-55 minutes per testing session; earlier grades may have less than 55 minutes.

ICTM Preconference and Annual Meeting

PARCC Update

An entire sample test will be available in the spring with instructions on how to use the different features.

For questions about PARCC, contact

- Jennie Winters – jwinters@lake.k12.il.us
- Heather Brown – hedi0201@me.com

ICTM Preconference and Annual Meeting

PARCC is intended as a placement exam. No decision had been made at ICTM conference time about the role of the ACT exam.

ICTM Preconference and Annual Meeting

2014 SAT

- Pencil and paper
- 100% aligned with Common Core
- Format is unchanged
- No change on calculator policy

Sources of Good Problems

- PARCC Sample tasks
- Smarter Balance sample tasks
- Illustrative mathematics
- Inside mathematics
- Dan Meyer – how to turn textbook problems into rich tasks
- MARS
- Good resource for teachers: Khan Academy

ICTM Opening Keynote : Steven Leinwand

“Hopes, Fears, and Challenges of Making the Common Core Real for Everyone”

- Algebra: the intense study of the last three letters of the alphabet.
- THE most important piece, the Trojan Horse of the entire Common Core Document, is Mathematical Practice #3: Construct viable arguments and critique the reasoning of others.
- There is no standard algorithm.

NCTM Principles for Action – 4/2014

Impactful Teaching Practices

- Establish learning goals
- Implement challenging tasks
- Facilitate meaningful discussions
- Support productive struggle
- Elicit and use evidence

ICTM Closing Keynote - Zalman Usiskin

What Changes Should Be Made for the Next Edition of the Common Core Standards?

ICTM Closing Keynote - Zalman Usiskin

What Changes Should Be Made for the Next Edition of the Common Core Standards?

1) Rethink the high school standards.

Conclusions and Recommendations

- If you are biding your time before making a decision about curriculum, keep biding.
- Consider the Illinois Model Curriculum. Math II and Math III are due out soon, if not out now.
- Meanwhile, supplement with rich tasks.
- Consider ways to implement the 8 Mathematical Practices.

Contact me!

- Joyce Bishop
- joycebishop@roe10.org
- 217-549-4519
- www.mathgarden.weebly.com
 - Choose mathematics workshops
 - Choose high school.