

Greetings,

With so many components of education changing in these recent years, it is my mission to provide guidance for mathematics teachers, their leaders, professional development providers, and anyone who impacts mathematics education. While some of the topics discussed within this document are left to the discretion of the local school, I strongly believe that a shared vision for mathematics education and a shared experience for mathematics educators across the state, regardless of the size of their math department, will lead to a greater number of students who find joy in mathematics.

To this end, I have detailed the three components of my vision for the 2013-2014 school year: **(1) Focused**, **(2) Empowered**, and **(3) Connected**. Within each component, a brief description follows along with guidance on how achieving that vision might occur. Component (1) draws on the successful Instructional Expectations documents used by New York City Public Schools. A number of key ideas that I believe to be essential to the mathematics educator are included in this component, spanning from considerations of instructional theory to more practical ideas and resources for planning. With multiple preps, extra-curricular responsibilities, numerous educational reforms, and families, I recognize the need to advocate for focused, useful, and engaging professional development. Components (2) and (3) have a more simplistic structure in which active and upcoming projects are summarized. These draw from many inspiring conversations with math educators around the state and the OSDE STEM Team, who I am fortunate to work along side.

I am certain that there will be modifications, errors, and many more great ideas to be added to this document; this is where you come in. In its most basic form, this is meant to be a communication tool. In its ideal form, I see this document as a common language leading to connectivity, collaboration, cohesiveness, and overall improvement of mathematics education in Oklahoma. This is a living document and will be revised yearly. If you find the document lacking, inspirational, or anything in between, I would love to have you on the Writing Committee for future iterations. Please add your name to the list of volunteers on the Feedback survey below. This is only a launching point; the rest is up to you!

Finally, I invite you all to participate in ongoing discussions on Facebook and Twitter. I am developing weekly discussion topics that will be posted weekly on Facebook and Twitter and am excited to begin hosting a monthly #OKMath Town Hall. If you find these ideas interesting, please let me know through the survey below. I hope that through our connections and our shared focus, we will all grow and improve our practice. I am certain that we have the expertise and the passion to continue to do great things and push ourselves beyond what we thought possible.

With my greatest appreciation and admiration, I submit this document to you, the mathematics educators of Oklahoma. Please share your thoughts about this document at <http://bit.ly/OKMathVisionFeedback>.

Sincerely,

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FOCUS(ed)

For the school year 2013-2014, the major work of transitioning to the new Oklahoma Academic Standards is upon us. Three goals have been defined to focus the development of mathematics educators across the state; (1) Fluency and Competence, (2) Instructional Design, and (3) Supporting All Students. Each has an Essential Question followed by a numbered set of Guiding Statements including reference to its overarching Goal.

Goal 1: Fluency and Competence (FC)

Teacher development focuses on building fluency and competence around the Oklahoma Academic Standards.

Essential Question: How have the Oklahoma Academic Standards changed and what must I do to prepare myself and my team for full implementation?

To this end, leaders and professional development providers will support teachers as they:

- FC.1 Explore the standards to analyze changing rigor and additional or removed standards.
- FC.2 Create concept maps to illuminate interactions among the standards.
- FC.3 Utilize appropriate resources, such as the PARCC Performance Level Descriptors, to create a deep understanding of what mastery of each content standard means.
- FC.4 Investigate content, structure, design, and innovative characteristics of new Oklahoma assessments.
- FC.5 Develop a deep and practical sense of how the Standards for Mathematical Practice influence instruction.
- FC.6 Engage in at least two instructional units aligned to the new Oklahoma Academic Standards during each 9-weeks.

Goal 2: Instructional Design and Resource Evaluation (IDE)

Teacher development focuses on instructional design and resource evaluation.

Essential Question: How do students learn mathematics and what does this mean for my instruction, textbooks, and resources?

To this end, leaders and professional development providers will support teachers as they:

- IDE.1 Develop an understanding of Piaget's Mental Functioning Model and its implications in instructional design.
- IDE.2 Explore the nature of productive struggle (assimilation - disequilibrium) and its relationship to prior experiences, misconception and preconceptions, and Lev Vygotsky's Zone of Proximal Development.
- IDE.3 Explore the nature of effective mastery development (accommodation - adaptation - organization) and its relationship to long term memory, reflection, and communication.
- IDE.4 Interpret resources such as the EQUIP Rubric (formerly Tri-State Rubric) as invaluable guides to evaluating resources.
- IDE.5 Consider the value of student work as the essential artifact in determining the effectiveness of instruction, lesson or unit, or material.

Goal 3: Supporting All Students (SS)

Teacher development focuses on supporting all students in mastering the Oklahoma Academic Standards.

Essential Question: How do I ensure I know what students are retaining, what they are struggling with, and how to respond with appropriate interventions?

To this end, leaders and professional development providers will support teachers as they:

- SS.1 Engage in conversation and research around a common language and understanding of what effective teaching looks like.
- SS.2 Determine the most appropriate and accurate screening procedure leading to effective and timely remediation.
- SS.3 Utilize formative assessments (such as Keeley, 2012) to better understand student misconceptions and to guide instruction.
- SS.4 Develop and enact a Response to Intervention Plan that is communicated to students and parents.
- SS.5 Ensure that appropriate accommodations are planned and enacted for all students, especially students with disabilities and English learners.

EMPOWER(ed)

With change coming from all directions, it is imperative that Oklahoma math educators actively work to solve problems, voice their opinions, and to create the outcomes they wish to see. As educators, we have the experience and expertise to shape the future of math education in Oklahoma. Four projects are outlined here, which I believe to be the first steps in empowering educators to share what is working and improve what is not. Each project is presented with its Vision Statement followed by a bulleted list of project objectives.

Project 1: OKMath Leadership

Oklahoma teachers empowered to lead the state in math and science education.

Related Focus Statement(s): To be determined by OKMath Leadership Members, if applicable.

To fulfill the vision of this project, the following objectives must be met:

- Project applications announced/received/reviewed (June 2013)
- Beta Class membership determined (July 2013)
- Alpha Meeting (July 2013), Beta Meeting (October 2013), Gamma Meeting (January 2014), and Delta Meeting (May 2014)
- Select dates for Class 1 meetings and initiate application process (March 2014)
- Review Project and Explore Opportunities for Improvement (June 2014)

Project 2: OKMath Open Education Resource Portal

Teacher developed and curated instructional resources available freely and openly for all Oklahoma Math Educators.

Related Focus Statement(s): FC.6 and IDE.4

To fulfill the vision of this project, the following objectives must be met:

- Establish Exploratory Committee (August 2013)
- Develop report on existing portals and forecast project viability (October 2013)
- If applicable: Develop Portal Prototype (January 2014)
- If applicable: Analyze educator use and interest (May 2014)

Project 3: OKMath Citizenship Framework

Create framework (or standards) to address the “why” of mathematics in order to help spur innovative lessons that engage students to think broadly about how mathematics is used in the world.

Related Focus Statement(s): FC.5, IDE.2, and SS.1

To fulfill the vision of this project, the following objectives must be met:

- Establish Exploratory Committee (August 2013)
- Develop report on similar frameworks/standards if they exist (October 2013)
- If applicable: Develop Writing Team/Draft Team Structure (January 2014)
- If applicable: Finalize Draft Documents for Public Comment (May 2014)
- If applicable: Revise and Publish Final Version (July 2014)

Project 4: STEM Blocks

Develop and promote a selection of eight semester courses that are highly contextualized and integrated for High School students. Create exemplar units and an Innovation Framework through which any school might develop their own STEM Blocks enabling schools to offer only the courses their students are interested in.

Related Focus Statement(s): To be determined.

To fulfill the vision of this project, the following objectives must be met:

- Compete for the Garrett A. Morgan Technology and Transportation Education Program grant in conjunction with OU, OSU, Career Tech, and the Department of Transportation. (July 2013)
- Establish Development Committee (September 2013)
- Outline Essential Qualities of a STEM Block as keystone of course development (November 2013)

CONNECT(ed)

With over 1,700 school sites across the state of Oklahoma, it is essential to the success of the #OKMath effort that mathematics educators have access to the newest, most accurate information, discuss ideas and share resources, and search out educators who are in similar scenarios that might be able to offer support. Three projects are outlined here to help connect mathematics educators far and wide. Each project is presented with its Vision Statement followed by a bulleted list of project objectives.

Project 1: OKMath Virtual Consortium

Math educators from across the state will have the option to participate in a monthly OKMath Update hosted virtually. Information sharing will allow for regional consortia to be informed and heard from regularly.

Related Focus Statement(s): FC, IDE, and SS

To fulfill the vision of this project, the following objectives must be met:

- Each OKMath Virtual Consortium Meeting will be held on the 2nd Thursday of each month unless stated otherwise. Two sessions will be offered, one at 10 a.m. and one at 2 p.m. Publish calendar (August 2013)
- Revise calendar if needed based on feedback from teachers (December 2013)
- Support regional consortia development as needed (Aug 2013 – May 2014)

Project 2: Twitter/Facebook/Listserv Recruitment

Math educators from across the state will have access to the latest information from the OSDE, while engaging the broader Professional Learning Network, through Twitter and Facebook, in discussions, planning, research, and networking.

Related Focus Statement(s): SS.1

To fulfill the vision of this project, the following objectives must be met:

- Reach 10,000 Mathematics Listserv members (May 2014)
- Reach 2,000 Facebook Group members (May 2014)
- Develop Dialogue Team to develop weekly topics and Twitter Town Hall discussions (August 2013)
- Post weekly discussion topic on Facebook (Aug 2013 – May 2014)
- Host monthly Twitter Town Hall meeting (Aug 2013 – May 2014)

Project 3: OKMath Yearly Vision Document

Each year, a document will be released helping to define goals for that year. This document should be a product of the OKMath educators and should help shape Professional Learning and solution-oriented thinking across the state.

Related Focus Statement(s): To be determined.

To fulfill the vision of this project, the following objectives must be met:

- Establish Writing Team (September 2013)
- Create process for evaluating Vision Document (November 2013)
- Gather stakeholder input (Dec 2013 – Mar 2014)
- Review and Revise Vision Document (Mar 2014 – June 2014)
- Publish 2014-2015 #OKMath Vision Document (July 2014)