

Math Community Advisory Committee – April 2, 2008
Gentry Middle School – Media Center
Paul Pitchford, Facilitator

The meeting was called to order at 4:02 p.m.

Members Present: Teresa Barry, Tim Bilyeu, Wesley Bird, Ann Bledsoe, Kathryn Chval, Marla Clowe, Lynn Eaton, Dan Edidin, Walter Gassmann, Bill Hervey, Sharon Jacoby, Larry Jones, Susan Lever, Cheryl Lightner, Catherine Linder, Phillip Long, Jennifer Mast, Alicia Pham, Michelle Pruitt, Joseph Quetsch, Alice Reese, Vickie Robb, Jeanne Sebaugh, Jancie Threat, Gail Underwood, JoNetta Weaver and Teresa Yeager (for Arden Boyer-Stephens)

Paul Pitchford began by reviewing the ground rules as defined by the committee at the first meeting:

- Begin and end on time
- Respect others points of view
- Turn off cell phones
- Participate fully
- Limit side bar conversations – keep on topic

Paul reviewed the format for the meeting. He stated that the committee was divided into five groups to facilitate the jigsaw process of reviewing the article, *The Strands of Mathematical Proficiency*. Each table was assigned one of five strands to review and discuss. Each group was assigned the task of identifying the “big” ideas from their strand. Table discussion would be followed by “teaching” the big ideas to those affiliated with other strands.

Dr. Pitchford stated that based on the work from the February 20th meeting, a list was compiled of 21st Century skills and competencies that the committee had identified, paired with a corresponding proficiency strand. He informed the group that the next part of the meeting would be devoted to the discussion of this *List of Skills and Competencies by Proficiency Strand*. During this phase of the meeting, committee members were instructed to record their suggestions for revision on the list of skills and competencies.

The final step of the meeting would be the expression of ideas in large group discussion.

Dr. Pitchford asked members to keep the following statement from the article in mind as they selected the big ideas and shared them in discussions: (From page 116) *Recognizing that no term captures all aspects of expertise, competence, knowledge, and facility in mathematics, we have chosen mathematical proficiency to capture what we believe is necessary for anyone to learn mathematics successfully. Mathematical proficiency, as we see it, has five components or strands:*

- *Conceptual understanding – comprehension of mathematical concepts, operations, and relations*
- *Procedural fluency – skill in carrying out procedures flexibly, accurately, efficiently, and appropriately*
- *Strategic competence – ability to formulate, represent, and solve mathematical problems*
- *Adaptive reasoning – capacity for logical thought, reflection, explanation, and justification*
- *Productive disposition – habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one’s own efficacy.*

These strands are not independent; they represent different aspects of a complex whole.

Paul stated that the analysis provided in the article is based on research in cognitive psychology and mathematics education.

Meeting participants engaged in table and “teaching groups” discussions. Following the teaching group discussion, the revised lists of Skills and Competencies by Proficiency Strand were collected. Dr. Pitchford stated that the submissions will be used to revise the current list. The revised list will be sent to committee members. The document will be used as a basis for the committee to provide advice to the school district regarding the mathematical skills and competencies necessary in the 21st century for all students – the committee’s first goal.

The committee participated in group discussion.

MATH COMMUNITY ADVISORY COMMITTEE DISCUSSION NOTES – April 2, 2008

1. The first two meetings are addressing Goal 1 – To investigate the mathematics skills and competencies necessary in the 21st century for all students and Goal 2 - To provide advice regarding the district’s efforts to address these skills and competencies. This is where I hope we are heading. We need to move from this global perspective to how the Columbia system operates. Can’t provide advice until we’re given more information about that.
2. How does the work of this group parallel the work of other committees regarding mathematics? Is there a math advisory task force? Please send the membership of the program evaluation and curriculum writing committees to advisory committee members with the minutes, and the timeline of their work. What decisions are being made about elementary and secondary curriculum and where does this advisory committee fit into that five year process?

Sally Beth responded to this question:

This group was formed as part of the recommendation of the Math Secondary Task Force that was concluded last May. Curriculum departments also have ongoing program evaluation committees. The curriculum review process begins with program evaluation, followed by curriculum rewrite of the measurable learning objectives (MLO) which is our curriculum. The elementary and 6th – 8th grade math curriculum went through program evaluation last year and are currently in the rewrite year. The high school curriculum was implemented this year. The curriculum review process has operated on a 5-year cycle. The 5-Year Curriculum Review Plan can be accessed on the district’s website at <http://www.columbia.k12.mo.us/misc/5yrcurr.doc>

Because of the need to implement budget reductions, the curriculum review process is being extended to a six year cycle. This means that programs scheduled for implementation in 2008-2009 will instead have the benefit of a “pre-implementation” year, during which professional development will be developed and provided to teachers in advance of full implementation, common assessments can be written, and small scale implementations may be conducted in order to inform broad scale implementation the following year.

The requested information (committee memberships and minutes) is being posted on the district’s elementary math web page at <http://www.columbia.k12.mo.us/math/>

The Math Community Advisory Committee’s role is to provide advice regarding this work; it is not to supplant it.

3. I want to talk about what is real – put the problems on the table so they can be discussed. Committee needs to be able to give input. Sometimes common sense trumps research.
4. Topic of “Strands” article was K-8. What does CPS expect of high school students in terms of the strands?
5. Let’s discuss the process of arranging walkthroughs (visiting classrooms).
6. Let’s have an admissions officer come and talk about implications of integrated strand vs. algebra strand for college.
7. The committee needs to be able to give advice about topics for future meetings, agenda items for the future.
8. Should be some discussion not only of the standards but also materials – that’s what parents in our community see.
9. So talk not just about the “what” but the “how.”

Sally Beth responded to these questions:

The conceptual framework for the work of this committee is two fold: 1) What we teach, the curriculum framework and 2) How we teach, what it looks like. We are in the midst of scheduling walkthroughs for those who indicated at the February meeting that they would like to visit a classroom. It is our goal to have walkthroughs completed before our May 6th meeting. A large topic of the May meeting will be sharing the district’s written curriculum with this group. We will be looking at how the district aligns the measurable learning objectives, what students need to know and do, with state expectations.

10. This committee will be able to provide input that will be useful over the long term – not just regarding short term decisions.
11. Committee might need information about how program evaluation is conducted – the kinds of data that are collected, so that we can understand the big picture.
12. Do this same thing for science.
13. Idea of creating a blog among advisory committee members so they can share ideas.

Paul Pitchford asked the committee to review the report “*The Final Report of the National Mathematics Advisory Panel*” from the U.S. Department of Education, which will provide background information to committee members as they advise the district on mathematical matters.

The meeting adjourned at 6:00 p.m.