

# Summary

February 6, 2007  
Math Articulation Team Meeting

Discussion of the article:

*Why Children have Difficulties Mastering the Basic Number Combinations and How to Help Them* by Arthur J. Baroody

- What is computational fluency and basic fact fluency?
- White paper on computational fluency in Summer Institute (2007) from OSPI
- Need to assist in the gaps with Bridges for basic facts strategies in K-5
- Memorization needs to be a part of strategy work

Nancy Duffey presented key points from her OSPI conference experience. She highlighted a presentation that stresses making the connections in math concepts between the concrete to the abstract. Sometimes that connection of the “familiar” is missing. Teachers can go from the concrete to the abstract, without connecting the concrete to familiar. Visualize those manipulatives as representations, so to transition from the concrete to the familiar and then move to the abstract. These steps need to be taught and intentional.

Middle School perspective on fluency: Kids that don’t have the fluency the way the program is laid out, it is not a detriment. CMP2 lends itself to using other tools or means to get to the answer. However, another middle school teacher described a unit on integers and the use of calculators is not a feasible tool. It is very important to modify and differentiate so that all students can be successful. Teachers need to know how to differentiate and what tools to use to differentiate. Possibly having a professional development on how to meet all learners’ needs within the classroom.

Nancy Duffey mentioned retention and transfer requires struggle, however, there is a difference between struggle and frustration. On a non-tool day, for the WASL, students need to have strategies in order to get to the math.

K-12 Math Diagnostic-Intervention Programs (Review) was shared. Programs were reviewed for content and complexity (high, medium, and low). Most of the programs reviewed were low on complexity and half of the programs were computer programs.

CMP trial update at WHS-Ted modeled an 8<sup>th</sup> grade unit from CMP2. It involved building bridges adding weights and graphing their results. The deepness of the lesson allows for various levels of math ability. The teachers could take something that they taught traditionally and present it to a variety of audiences and abilities.

As professionals, there is no program that will cover the state curriculum. We need to identify the gaps and supplement intentionally. It takes time, but just the realization is not enough.

The attendees were able to read the article referenced at the beginning of the minutes. People were able to share what they had learned or taken away from the article. Allowing students to struggle can be a difficult concept for teachers to embrace. When being timed, some students can take away their strategies because they are focusing on the stress of being timed. Teaching students to look at numbers differently early on is a strategy that they can use forever. Kids need enough time to practice the strategies. Some middle school kids may not know what the fact families are. It is crucial to see the relationships and patterns in numbers early in educational experiences. Number sense should be defined as using any effective strategy, not just that automatic recall. There are different ways to get to the right answer. A deficiency could be the result of inappropriate instruction, rather than the student's deficiency. It is ok to say that you are horrible in math, but embarrassing to say that you cannot read. The way that math is being presented is shifting from the way that teachers were taught.

Next meeting will be on Tuesday, March 6<sup>th</sup> in the District Office Main Board Room.