

## Session 4 – Minimum Content for Math – Elementary

Facilitator: Bridgette Stevens

Note Taker: Julie Hartzler, Grand View

Location: Rasmussen 219

### NOTES:

An issue came up this summer while teaching division of fractions to pre-service elementary teachers. Students were asked to write a real life story problem that would make sense for  $6\frac{1}{2}$  divided by  $\frac{1}{2}$  (common error – dividing by 2 instead of  $\frac{1}{2}$  - multiplying by  $\frac{1}{2}$ ). Several examples, correct and incorrect, were shared by the facilitator.

- How do you deal with the remainder in real life?
- Why does the division of fractions cause confusion for both in-service and pre-service teachers?
  - They just want to use the algorithm.
- In one study, no one could draw a diagram of a more complex division problem given and this was with exceptional teachers!
  
- Math teachers need to be able to represent the concept in various ways.
- Political questions...raise the expectation across Iowa of what the math content should be for elementary teachers (that may be discussed this afternoon).
  - Legislature change - there is a movement at the state to change it to 9 credit hours - both methods and content. The DOE said it needs to come from the Curriculum & Instruction and not the math dept. Need an organization to put pressure on the government.
- What (and how) we teach teachers may well become what they teach their students.
- Professors need to model how we want them to teach.
- Barb brought up the 9 credit hours and how all disciplines would want the same number of credit hours. What about having specialists?
- What do pre-service teachers need to know? Notable work was shared.
- Start Master's programs for development of existing teachers.
- In Tennessee, students need 4 years of content and a 5<sup>th</sup> year of methods. They walk out after five years with a master's degree.
- Japan – 2 years of student teaching type experience only about 50% make it through the program.
- Schools don't have time for pre-service teachers in the classroom.
- San Diego State has a terrific program. The college students watch a lot of videos of students (working on math, thinking about math, etc.) so they are familiar with how students think.
- No Common Denominator (NCTQ 2008)... several standards shared that focus on content.
- At Dordt College the methods courses are half math/ half methods – team taught (6 credit hours).
- Changing the culture of schools.

- What direction should Iowa take? Should we consider a minimum content “core” for pre-service math teacher education in Iowa? Maybe we should consider outcomes and not content? What would it take?