

Spring 2014

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Morning Breakout Session: Mathematics

Presentation comment: critical pathways at the present time are College Algebra. Should the math pathway be College Algebra? Quantitative literacy is pathways for art majors, social scientist need a pathway by statistics and stem pathways require college algebra to calculus. Do we need three pathways for math instead of one?

Conversation

An assumption with three pathways is that students know what they are doing when they start college. What they will need for an education.

- A non-stem student rarely goes to a stem path.
- A stem might student might change to a non-stem path.
- Data suggests that stem students can easily change paths.

Question

How much would a student studying to be an elementary teacher need to know?

Answer

MAT 155 and MAT 156 completion of both are required for elementary teachers.

Question

What is the minimum requirement for education (math)?

Answer

Social science needs statistics... Each institution set their own. There is a free range.

Calc base disciplines need college algebra. Social science needs a statistics base. Does the general ?

Question

Is this the time to set guidelines?

Answer

The charge today for math is to discuss liberal arts, statistics, and college algebra. What would be the common learning outcomes? The advising piece will happen at the institutional level. That is the GOAL today.

Question: What is MA1 general?

Answer: What about students that are beyond the gateway classes. English has CO 1, CO 2, and CO 3.

Question: Is this a transfer?

Answer: Regardless if it is a transfer from 2 to 4 or 4 to 4 the transfer would be the GT.

Question: Is this the time?

Answer: Should that pathway be MA1 – College Algebra, MA2 – Statistics, and MA3 Math for Liberal arts. Right now there is only MA1. If there were to be three there could be three pathways.

Question: Is everyone going to agree to three?

Comment: We are talking three MA1, MA2, MA3. Could be an advantage to a bucket system.

Answer: What are the essential outcomes for all MA? Within the three different courses what is specific? Criteria right now everything is going into this bucket. We need to firm up the language so all math for liberal arts look the same. Think of it as three different tracks. There are some existing problems.

Conversation on a state level is the goal. By discussion the hope is to come to a common consensus of pathways for math. There is a need for a specific sense of each course.

Question: How is this different from the common course?

Answer: Only the two years have a common course alignment.

Question: Can we use it?

Answer: Possible. Let's look at the possibility of MA1, MA2, and MA3. Right now there is a generic MA1 only.

Comment: The list right now can be covered by 5th graders. College level education should move the bar to align.

Answer: P20 looked at what was the exit for math. We rely on CDE, k-12 to provide information on student ability and expectations. How do we align to k12?

Let's look at how to line up with math for liberal arts and statistics. Line up the classes so one in Pueblo is the same as one in Fort Collins. The college algebra classes need to be the same for 2 years and 4 years. Statistics is too generic; professors teach different things in the same course. Math for liberal arts is very different. Some schools math for liberal is an algebra based course while other schools have a completely different course. What are the criteria for MA1 College algebra, MA2 math for liberal arts, or MA3 statistics?

Question: Look at the categories, if a student completed college algebra then transferred would that not meet the math requirement for gen ed at the next school? Do we still need a bucket for all maths?

Answer: Do we want one general bucket or three?

Question: Are these different levels or flavors?

Answer: We rely on the professionals.

Comment: For math we have a check off list. What do we want? What is essential for a math for liberal arts? We need help for completion. What are the skills for a course: two things - essential know the other skills. The morning session is for general conversation and the pm is specific for math for liberal arts, college algebra and statistics.

College algebra should not be the default for the gen ed requirement for completion of math.

Comment: Community colleges accept gtPathways. The four years schools do different things. We are having trouble with conversations between schools to schools. The 2 years already have a common course. (Ian's note added 5/2/14: All institutions, both 2- and 4- year, are required to accept and apply gtPathways courses to each institutions' gen ed core. Also, GT-MA1 is the common course number for any mathematics course in that category and this is common at all institutions. This is why it may make more sense to create more common course numbers for gtPathways math courses, e.g., GT-MA2 and GT-MA3 and so on.)

Answer: Maybe a starting place is 2 with a 4. Learning outcomes need to be the same. Can we develop across 2 and 4. We do not have the same number system? (Ian's note added 5/2/14: Same note as above. The common course numbering system for ALL institutions for gtPathways courses is at <http://highered.colorado.gov/Academics/Transfers/gtPathways/curriculum.html>)

Question: Quantitative literacy – the definition is a huge issue.

Answer: What do we need to know and how are we going to get there at all levels, 2 years and 4 years? A stem student needs a different level than a social science major.

Question: Should we start at the high school level?

Answer: The exit from high school should be college ready. Not remedial work.

Comment: The emphasis is gen ed not content.

This is the beginning.