

MATHEMATICS DISCIPLINE AND COLLEGE READINESS

Presentation to the
Oakland Community College
Academic Senate

History

- ▣ The Administration and Faculty agreed to put our developmental math classes, MAT 1045 and 1050, into College Readiness per the FMA (~25% of ICH)
- ▣ The VC asked the Math Discipline to consider moving MAT 1100 and 1150 to CR (~50% of ICH)
 - We were required to submit a document of concerns (with less than 48 hours notice). We submitted a 4 page document, but have not yet received a response to these concerns.
- ▣ At a 2nd meeting, the chairs were told that this decision has already been made, and will be implemented Fall of 2014
- ▣ The Chancellor has advised that Math Faculty should be represented on the CR steering Committee

“Justifications”

- ▣ At the 2nd meeting with the VC, four justifications were given:
 - “Fall in line” with the rest of the country.
 - MAT 1100 and 1150 are “universally defined” as developmental.
 - The HLC demands such rigor for accreditation.
 - Because MAT 1100 and 1150 do not transfer to many schools for *graduation credit*, they should not be in the math discipline.

American Mathematical Society Statistical Abstract data¹

- ▣ 76% of 2 year colleges do NOT have ANY math classes in a separate developmental division
- ▣ Of the 24% that have a separate Developmental division (CR), less than 55% include MAT 1100
- ▣ Of the 24% that have a separate Developmental division(CR), less than 30% include MAT 1150
- ▣ Summary:
 - 24% of 2-year colleges separate MAT 1045/1050
 - 13% of 2-year colleges separate MAT 1100
 - 7% of 2-year colleges separate MAT 1150

Data Driven?

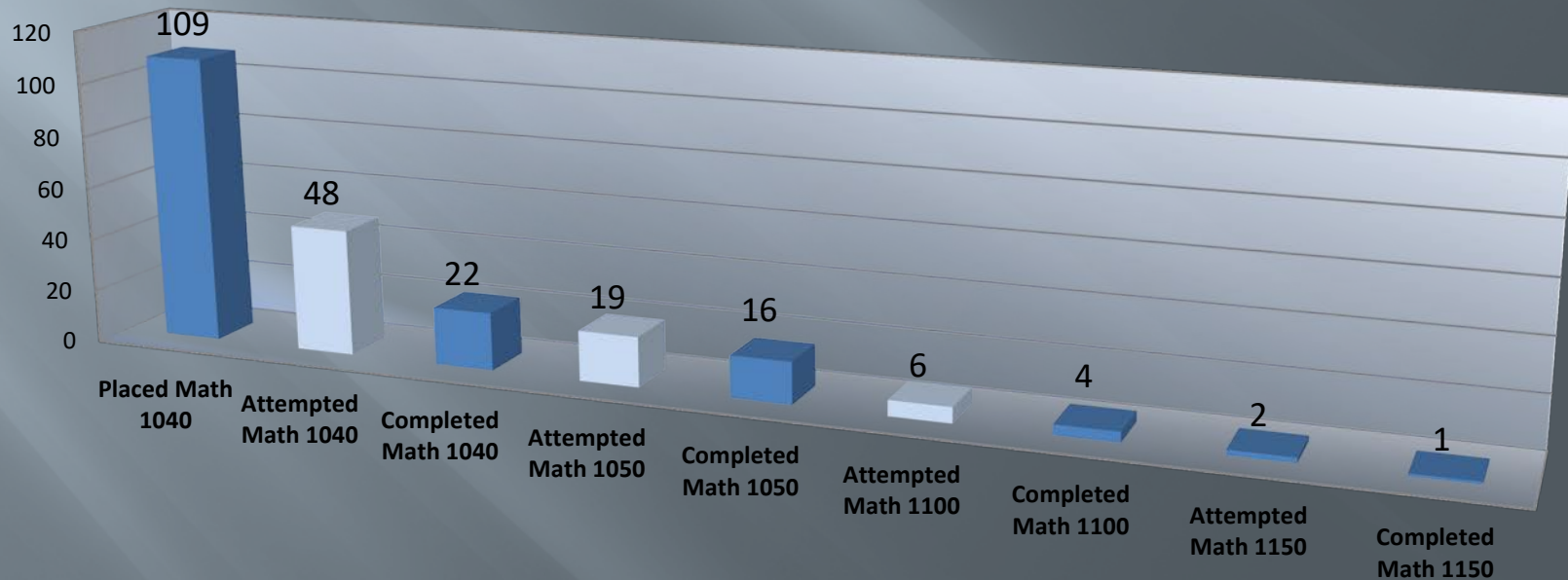
- ▣ CBT Report- “The integrated model should reinforce the importance of evidence-based planning. . .”²
- ▣ “OCC must be a Data-Driven institution.”
- ▣ CBT Report – “Identify the critical data and evidence that help define the issues/problems. . .”²
- ▣ As mathematicians, we fully support these ideas! Yet, the discipline has NOT been presented data to explain the problems or concerns. In short, we do not know what problems are trying to be addressed!

Guessing?

2nd and 3rd hand data/information:

Achieving the Dream Data³ – The following chart was presented to the Board of Trustees

Progression from Developmental Math to College Math within Four Years (2007 Achieving the Dream Cohort)



Guessing? Continued

- The problems with this AtD data
 - Considers the VERY LOWEST LEVEL of our developmental population, MAT 1045
 - Does NOT address MAT 1100/1150 students!
 - Does NOT take into account student goals
 - Does NOT take into account transfers
 - Does NOT take into account that MAT 1150 was not required for graduation at that time
 - “Placement” does NOT equal “attempted”
 - Most people don’t understand exponential functions
 - AtD report itself does NOT even consider MAT 1150 as developmental!

Guessing? Continued

Chronicle of Higher Education “College Completion”⁴ considers percentage of “full-time equivalent” students who complete a degree/certificate.

- Does NOT refer to Developmental
- Does NOT refer to Math
- Does NOT take into account transfers (a success!)
- Does NOT take into account students’ goals

CBT Report- “The Vice Chancellor is in the position of having to make decisions without knowing the impact they will have at the campus or department level. . .”²

We're open to change!

- ▣ Changes suggested (most from Curriculum Review)
 - Campus “Developmental Math Coordinators”
 - No
 - More Full-time faculty teaching developmental
 - Successful (Until now!)
 - Restructure MAT 1040, which is now MAT 1045
 - Successful
 - Math Center at Highland Lakes
 - No
 - More SI/GT support
 - No (Shrinking, not growing!)
 - Move MAT 1045/1050 into College Readiness!
 - Success is yet to be determined

Concerns about the Dictated CR Plan to move MAT 1100 & 1150

- ▣ What's the goal?
 - We can't hit a target when we do not know where we are aiming! How can we discuss being a part of the solution when we do not know what the problem is? How will success be measured without a baseline?
- ▣ Decline in Communication
 - Opening introduction of the CBT Report – “Communication has become more difficult as the organization has grown and become more segmented.”²
- ▣ Shared Governance
 - CBT Report – “Participatory governance . . . provide an avenue for an administrator to receive valuable advice from those who are most knowledgeable about specific aspects of the College or campus while also providing an opportunity for employees and students to have a say in recommendations that will affect them.”²

Concerns Continued

- ▣ Stigma of segregation
 - Modern trends in education promote inclusion
 - Enrollment decline?
 - Community, student, and staff perception
- ▣ Faculty may lose the critical “vertical alignment of curriculum” paradigm
- ▣ No evidence of improvement
 - Again, we have NOT been presented data that indicates the inclusion of MAT 1100 and 1150 into CR will have a positive impact
 - We HAVE seen information that it may NOT improve performance
 - What are the positive things that might be lost?
 - Does the gain outweigh the cost?
 - 3 possibilities – Better? Same? Worse?

Concerns Continued

- ▣ Learning from other institutions!
 - **Mott Community College**
Recently created 3 “program coordinators” for 3 levels of math.
 - **Lansing Community College**
Had separated Developmental Math, but recently absorbed that back into the math department, and is now installing Developmental Coordinators!
 - **Macomb Community College**
Eliminated a “Basic Education” division due to ineffectiveness. Math department now covers the curricula.
 - **Dixie State College⁵**
Separated math courses into developmental department and had a 6% completion rate for MAT 1100 after students completed MAT 1045/1050 in the developmental department! (the last available year 2006)

Proposals

- ▣ “Test Drive” CR with MAT 1045 and 1050
 - CBT Report – “The goal is to reinforce a team approach to the process and to ‘test-drive’ the process before taking on all of the college's Strategic Objectives. The team can then modify the process to make it more effective.”²

Proposals Continued

- ▣ Develop metrics for meeting the needs of our students!
 - Success at Community Colleges should be measured on more than graduation rates or milestones imposed by Lansing, OCC, etc.
 - We should measure success by asking: “Are these students being prepared to succeed at the next level?”
 - We should measure success by asking: “Are students getting the education they seek?”
 - ▣ Transfer?
 - ▣ Graduate?
 - ▣ Certificate?
 - ▣ Job?
 - ▣ Life-long learner?

Summary

- ▣ We want to know what the problems are!
- ▣ We want consistent and relevant metrics!
 - Before making changes
 - In order to assess those changes
- ▣ We want to be a part of the solution!
- ▣ We want to maintain shared governance!
- ▣ We want to wisely serve our community and students!
- ▣ We do NOT want to spend \$1-2million only to see more students fail. (67% vs. 6%)

1. - “Statistical Abstract of Undergraduate Programs in the Mathematical Sciences in the United States.” Assembled by the Conference Board of the Mathematical Sciences, and published by the American Mathematical Society, 2013.

TABLE TYE.16 Percentage of two-year colleges in which some of the precollege (remedial) mathematics course offerings are administered separately from, and not supervised by, the mathematics program – e.g. in a developmental studies department or program – by type of course in fall 1995, 2000, 2005, and 2010.

Mathematics Outside of the Mathematics Department		1995	2000	2005	2010
Percentage of Two-year Colleges with some precollege mathematics courses outside of mathematics department control		29	29	31	29
Course number	Type of Course				
1-2	Arithmetic & Basic Math, Pre-algebra	19	17	20	24
3	Elementary Algebra (High School level)	12	12	15	13
4	Intermediate Algebra (High School level)	4	4	7	7

2. - College Brain Trust Report

- ▣ <http://infomart/CBT/Reports/>

3. - AtD Data Continued (presented by faculty)

PROGRESSION OF FALL 2007 ENTERING STUDENTS PLACING INTO MATH *1040/1045*

Total Students	2007-08	2008-09	2009-10	Total, Within three years	2007-08	2008-09	2009-10	Total, Within three years	2007-08	2008-09	2009-10	Total, Within three years
	Attempted Math 1040/45				Attempted Math 1050				Attempted Math 1100			
109	42	11	-	53	7	10	8	25	-	2	4	6
	Completed Math 1040/45 C or Better				Completed Math 1050 C or Better				Completed Math 1100 C or Better			
	17	5	-	22	1	5	8	14	-	2	2	4

4. – College Completion Chronicle – State of Michigan

- ▣ http://collegecompletion.chronicle.com/state/#state=mi§or=public_two

5. - DIXIE STATE COLLEGE

“PROGRAM REVIEW FOR THE DEVELOPMENTAL STUDIES DEPARTMENT” SPRING 2006

- Data from the equivalent of our MAT 1045 and 1050

Cohort	Percent	Number of Students who Completed Next Course
2003 (255 students)	19%	49 of 255
2004 (200 students)	20%	39 of 200
2005 (172 students)*	19%	32 of 172
2006 (176 students)**	6%	10 of 176

- Data from the equivalent of our MAT 1100

Cohort	Percent	Number of Students who Completed Next Course
2003 (757 students)	43%	324 of 757
2004 (888 students)	44%	394 of 888
2005 (883 students)*	38%	339 of 883
2006 (790 students)**	29%	227 of 790