SHORELINE COMMUNITY COLLEGE **TAB 1**
DISTRICT NUMBER SEVEN
BOARD OF TRUSTEES
REGULAR MEETING OF APRIL 24, 2013

REPORT

Subject: BOARD MONITORING REPORT (April 2013)

Attachment

Board Monitoring Report (BMR)—Developmental Math

Prepared by: Shana Calaway
Professor and Program Chair: Mathematics
Shoreline Community College
April 19, 2013

BOARD MONITORING REPORT: DEVELOPMENTAL MATH

Report: Student Performance in Developmental Math

Presenter

Shana Calaway, Professor of Mathematics

What the Math Department has done and is doing

1. Effective Fall 2011, we revamped our developmental curriculum to better prepare our students to be college-ready. We moved topics among Math 070, 080, and 099 to ramp up in difficulty, so a student leaving Math 099 would be prepared for the pace and complexity of their college-level course. We focused on key concepts, reducing emphasis on some topics or eliminating them altogether.

We have made a greater effort to communicate with associate faculty, who teach the majority of our developmental courses, about our curriculum. We give each of our teachers a detailed course information letter that tells which sections of the book are core and which can be covered lightly. We provide sample exam problems to illustrate the breadth of topics and difficulty that is appropriate for each of Math 070, 080, and 099. The faculty teaching each course are grouped in an email learning community. Our mentoring program for new associate faculty has been revived.

2. We have been working to improve access in our developmental courses. We chose a less expensive textbook for Math 070, and have moved toward the e-book option in Math 080 and Math 099. More of us are using online homework systems, which often allow students to choose the e-book option. We launched the online Math 080 and improved our online Math 099 in 2011, which has led to greater student success. We piloted hybrid versions of Math 080 and Math 099 this year, which require less on-campus time from the student.

The result of the changes in curriculum and student access is a small increase in the proportion of our developmental students who pass their classes.

Proportion of Shoreline students passing developmental classes

	2009-2010	2010-2011	2011-2012
Math 070	.56	.60	.60
Math 080 f2f	.56	.56	.59
Math 080 OL			.59
Math 099 f2f	.60	.58	.62
Math 099 OL	.56	.47	.58

3. The modular algebra classes have been experiencing increases in the proportion of students who finish within one quarter.

Starting Winter 2013 (last quarter), we introduced a pretest option into our modular algebra courses. This is meant to make it easier for students to move through these courses quickly. It's too early to have much data on this, and the population is small, but early numbers are encouraging. In particular, two students were able to finish the equivalent of both Math 080 and Math 099 within one quarter.

Proportion of those finishing all 5 credits of the modular algebra course in one quarter.

	Winter 2011	Winter 2012	Winter 2013
Modular equivalent to Math 080	.17	.27	.31
Modular equivalent to Math 099		.20	.23
Both			.15

4. The Math Department has been working with math faculty in the Shoreline School District under the Core to College grant. This year, our work has been concentrated on learning more about each other's curriculum and professional development about the Common Core Standards. One of the projects for next year is working toward using Shoreline district high school transcripts for placing students in our math classes.

We hope that a shared understanding of our curricula and the Common Core Standards will ease students' transition from high school math classes to our courses. We also hope this will lead to a decrease in the proportion of high school graduates who need our developmental courses over the next several years. Having additional tools we can use to properly place our students should increase student success and decrease the time required for them to reach college level.

Coming soon

1. The new Direct Transfer Agreement is expected to pass Joint Transfer Council today, April 24, 2013. (See attached.) This will allow us to offer an alternative developmental path, modeled on the Liberal Arts Pathway. The Math Department is ready to develop the alternative course as soon as the proposal passes. We're holding some spots in the fall schedule for this course in anticipation of the passage of the new DTA.

The alternative pathway will allow students to prepare for the quantitative requirements of their degree without having to prepare for calculus. We anticipate that many students will be able to use the alternative pathway to reach college level more quickly.

2. Humanities Dean Kathie Hunt, Associate Dean of Student Services Kim Thompson, Professor of Mathematics Shana Calaway and Veterans' Program Coordinator Chad Springer are implementing a Veteran First Year Experience for the 2013-2014 academic year. Tentatively called the veterans' ***Bridge to Success Academy***, the first year experience will begin with a Veteran Interest Group (VIG) starting Fall 2013. The cohort-based sequence of courses is designed to assist with re-integration, progression and retention. Student veterans who finish the three quarter experience will complete 48 credits in three quarters starting Fall 2013. The chart below details the sequence of courses.

Fall Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
English 100/101	5	English 102	5	Multicultural Studies	5
Study Skills/Career Exploration	5	Math 99	5	Individually chosen math/ORS/science	5
Math 80 and	5	Orientation to online	1	Individually chosen class	5
Math Study Skills	2	Individually chosen class, Math Lab. Or Writing Studio	1-5		
Total Credits	17		12-18		15

We expect this VIG to increase student success for this cohort of veterans in all their classes, including the developmental math courses.

Student Achievement Initiative points in College Ready PreMath

A greater number of our students are earning student achievement points in developmental math. Note that the total number of points went up even as the number of students went down.

Student Achievement Initiative points in College Ready PreMath

	2009-2010	2010-2011	2011-2012
# of points	1409	1293	1486
# of students	12255	11461	10459
Points per student	.11	.11	.14

Compared with the state as a whole, and with other nearby colleges, more of Shoreline's students are earning SAI points in the first place, more are earning college-ready points by completing precollege math or English, and more are earning quantitative points by passing the quantitative course required for their program or degree.

Highest momentum achieved by the end of the second year, for students starting in 2007, 2008, or 2009:

	Shoreline	All SBCTC	Bellevue College	Cascadia CC	Edmonds CC	Seattle Central CC	North Seattle CC
No Momentum	33.0%	43.0%	35.6%	45.6%	36.2%	38.4%	38.9%
College Ready	3.6%	2.4%	3.7%	1.9%	2.2%	3.1%	1.8%
Quantitative Point	4.8%	1.6%	2.6%	0.6%	1.2%	3.1%	1.4%

WASHINGTON STATE
Council of
Presidents
REPRESENTING WASHINGTON'S PUBLIC BACCALAUREATE INSTITUTIONS

Memorandum
Date: April 4, 2013
Subject: Revising the Quantitative/Symbolic Reasoning Requirement in the DTA

Washington's Public Baccalaureate Institutions are committed to supporting and strengthening the long-standing and successful Direct Transfer Agreement (DTA) between the two-year and four-year sectors of higher education in the state. To that end, the undersigned institutions approve, and recommend implementation of, the attached revision of that agreement.

The effects of this revision will be to:

1. Clarify and narrow the options for completing the Quantitative/Symbolic Reasoning (QSR) Skills requirement in the DTA, thus strengthening QSR student outcomes;
2. Communicate that different degree pathways utilize different college-level QSR starting points;
3. Recognize that, while all college students should have high-quality preparation in intermediate algebra, different versions of intermediate algebra course work may be appropriate as prerequisites for specific courses that meet the QSR requirement;
4. Support the community and technical colleges' innovative efforts to promote retention, completion, and transfer success.

Marilyn A. Levine, Provost, Central Washington University — Date

Rex Fuller, Provost, Eastern Washington University — Date

Michael Zimmerman, Provost, The Evergreen State College — Date

Ana Mari Cauce, Provost, University of Washington — Date

Warwick M. Bayly, Provost, Washington State University — Date

Catherine A. Riordan, Provost, Western Washington University — Date

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Proposed Change to the Direct Transfer Agreement (DTA)

MATH IN THE DTA

1998 – Current DTA requirement:
Quantitative/Symbolic Reasoning Skills (5 credits)

1. One of the following (5 credits)
   (1) Symbolic reasoning course
   (2) Quantitative reasoning course in computer science, statistics, mathematics, or other discipline for which intermediate algebra is a prerequisite.

2. Intermediate Algebra Proficiency -- All students must be proficient in intermediate algebra. May be satisfied by completion of high school mathematics through second year algebra, by course challenge or other examination demonstrating mastery of intermediate algebra skills, or by completion of an intermediate algebra course (to be numbered below 100) or a mathematics course for which intermediate algebra is a prerequisite.

2013 – Proposed New Requirement
Quantitative/Symbolic Reasoning Skills (5 credits)

1. Five (5) credits of college level mathematics (a course with a Mathematics prefix numbered 100 or above[1]) that furnishes the quantitative skills required in the commonly recognized educational transfer pathways toward a baccalaureate degree. Accepted courses in these pathways are: Precalculus or higher, Mathematics for Elementary Education[2], Business Precalculus/Finite Mathematics, Statistics, and Math in Society; or

2. Five (5) credits of a symbolic logic course that focuses on (a) sentence logic with proofs and (b) predicate logic with quantifiers and proofs and/or Aristotelian logic with Venn Diagrams.

[1] To qualify for QSR, college level math and logic courses must require intermediate algebra course work (high school or college) with a grade of 2.0 or higher as a prerequisite.

[2] The University of Washington accepts Mathematics for Elementary Education for elective credit, but not as meeting its QSR requirement, since UW offers no degree pathway for which it is appropriate.

Shoreline Community College Department of Mathematics

Steven Bogart

- 17 years at Shoreline Community College
- 2012 Commencement Speaker
- Developed online statistics course
- Co-chair for the 2014 Washington State Community College Mathematics Conference planning committee
- Made significant contributions to the development of the mathematics department common Canvas structure
- Taught all three upper-division courses this year

Shana Calaway

- 13 years at Shoreline Community College
- Developed Business Calculus course for Open Course Library
- Helped faculty migrate to Canvas
- Chair of the Math Department
- Developed several online courses for the department
- Advanced Placement Calculus Reader

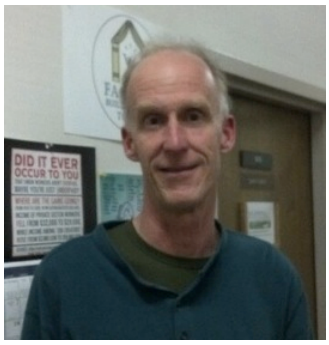
Shannon Flynn

- 22 years at Shoreline Community College
- Developed and piloted hybrid versions of Math 080 and Math 099
- Promotes sustainability within department

Nancy Goodisman

- Affiliate faculty at Shoreline Community College for many years
- Developed Math 086 modular algebra course
- Core to College grant work
- Transition Math Project grant work

Fred Kuczmarski



- 15 years at Shoreline Community College
- Enjoys learning new mathematics and sharing ideas with colleagues and students
- Has conducted several series of mathematical talks for our students
- Helped revise developmental curriculum
- Wrote and compiled departmental sample exam for Math 099
- Has recently published papers on geometry

Sarah Leyden

- 24 years at Shoreline Community College
- Core to College grant work
- Co-developed Math 096 modular algebra course
- Member of the committee to develop the modularized developmental courses
- Founding member of Shoreline eLearning Community
- Made significant contributions to the development of the mathematics department common Canvas structure

Juliet Lovejoy

- 7 years at Shoreline Community College
- Co-developed Math 096
- Member of subcommittee to review placement testing
- Part of a Student Achievement Initiative grant to improve prerequisite checking and placement in developmental math
- Made contributions to the development of the mathematics department common Canvas structure

Lauren Sandven

- 10 years at Shoreline Community College
- Core to College grant work, will be the lead 2013-2014
- Member of the original committee to develop Math 086
- Member of the Accreditation Coordinating Team (2012)
- Started associate faculty mentor program
- Member of subcommittee to review placement testing
- Part of a Student Achievement Initiative grant to improve prerequisite checking and placement in developmental math
- Transition Math Project grant work

Nirmala Savage

- 13 years at Shoreline Community College
- Teaches classes ranging from Math 070 to Math 264
- Director of the Transition Math Project grant for three years
- Among the first at SCC to use an open source textbook and other open resources
- Revived Math 264 to become a course that is reliably run each year
- Reviewed math placement testing options
- Made contributions to the development of the mathematics department common Canvas structure

Rosalie Tepper

- 7 years at Shoreline Community College
- Math Learning Center Director since Fall 2008
- Participant in statewide initiatives such as Liberal Arts Pathway creation
- Core to College grant mathematics lead, 2012-2013
- Co-chair for the 2014 Washington State Community College Mathematics Conference planning committee
- Editor of the Solutions Manual for our open-resource precalculus textbook