

Long developmental math sequences are a barrier to success for many students. There are many promising strategies for addressing this issue by redesigning curricula to reduce the number of required courses or the amount of time required to complete them, by incentivizing early and sustained attempts of math coursework, by modifying pedagogy or adding support services to increase course success rates, by training students in college success, etc. Although each institution must adopt strategies appropriate to local circumstances, one approach that seems likely to have a large positive impact at most community college is that of establishing a separate, more accelerated pathway through developmental math for students in non-STEM degree fields (non-Science/Technology/Engineering/Mathematics). The Work Group believes that non-STEM students must have access to mathematics experiences appropriate to their chosen career paths and that the creation of an alternate mathematics pathway will reduce the number of exit points and decrease time to graduation.

We urgently recommend these actions:

1. Oregon colleges serving developmental math students must establish an alternate non-STEM pathway as appropriate for the student population and mission of each college. Such pathways utilize courses that prepare students to succeed in a college-level liberal arts mathematics course such as Math 105.
2. To ensure that Math 105 provides appropriate and sufficient mathematics education for non-STEM students, mathematics faculty representatives from Oregon two-year and public four-year institutions will convene during fall term 2014 to clarify and improve consistency in the outcomes for Math 105.
3. Currently, for a mathematics course to satisfy the Associate of Arts Oregon Transfer (AAOT) degree, it must have a prerequisite of Intermediate Algebra, Math 095. This implies that all degree-seeking students, regardless of degree field, must complete the traditional pre-calculus course sequence before attempting a gateway mathematics course. Therefore, the State must change this requirement to “Any transferrable 100-level mathematics course satisfying the AAOT must have a prerequisite of Intermediate Algebra or a Quantitative Literacy course.”
4. In order to support this new pathway, the State and its public institutions of higher education must agree that Math 105 fulfills the Baccalaureate Core Requirement in Mathematics for all non-STEM 2-year and 4-year degrees.

DRAFT RECOMMENDATIONS: Student Support Services

Advising

- Institutions will create a mandatory advising process for all developmental education students.
- All developmental education student advising will be delivered by professional advisors and/or faculty who have received training in the CAS professional standards.
- Institutions will use an early alert system to support developmental education student success and provide dedicated resources to follow-up on alerts.

Orientation

- Institutions will create a mandatory orientation for all developmental education students. Mandatory orientations for developmental education students shall be distinct from initial advising and shall include evidence-based student success strategies.
- Institutions will identify learning outcomes for each student success strategy, regularly assess these outcomes and make appropriate adjustments to the orientation curriculum.

Holistic Student Support

- Institutions will use a variety of strategies to intentionally support the whole developmental education student in the cognitive, affective and personal domains.
- Strategies to support the whole student will be developed and implemented through the collaboration of student development and instructional partners, including but not limited to counselors and other student development professionals, faculty and librarians.
- Strategies shall address traditional barriers to academic success, including but not limited to, childcare and transportation challenges, physical/mental health issues, financial issues, lack of information literacy, and disabilities.

First Year Experience

- Institutions will create a mandatory First Year Experience program for all developmental education students that include evidence-based student success strategies and is delivered over the course of three consecutive terms.

DRAFT RECOMMENDATIONS: Placement

Statewide Common Placement Processes

To create a statewide system that uses effective placement processes and strategies that recognize that students arrive at community colleges with different education backgrounds, life experiences, skills and goals

Oregon community colleges should create a common set of practices and commitments for the placement of students. The Developmental Education Redesign Work Group recommends that a body of community college, university, and high school representatives with appropriate expertise convene to make recommendations to the State around placement that consider the following:

That all 17 community colleges

- Use common course outcomes for similar courses in developmental education and gateway English and Math courses;
- Share a common assessment process for placements and/or set of placement instruments and measures;
- Consider use of common "decision zones" for placement, with decision zones defined as a range of scores and non- cognitive measures that would indicate placement at a certain level;
- Commit to assessing the effectiveness of the common placement processes and/or instruments or measures on a regular basis and how the processes should occur;
- Explore how supplemental learning activities (e.g. tutoring, math labs, study groups, self-paced faculty developed activities, use of computer labs, library, student services activities) factor into placement decisions; and
- Consider using multiple measures to place students, including the use of non-cognitive variables/domain/aspects (e.g. work schedule, child care, motivation, self-confidence); the GED exam, Smarter Balanced, Engage, HS transcript and/or GPA, AP/IB, etc.

Test Preparation Practices

- Institutions should have a test/placement preparation program that meets the following standards:
 1. It improves students' knowledge of the content, format, policies and purpose of the placement.
 2. It conveys the message that exam preparation is appropriate in all testing center communications.
 3. It designs study materials that include guidance about how to review for the exam.
- Institutions should consider requiring test preparation for only those students who require a placement test. If a student is required to take the placement test that placement test should not take place on the day the student learns of that requirement.

DRAFT RECOMMENDATIONS: Reading and Writing

Typically students must pass a long string of developmental reading and writing courses to complete a degree. Because multiple exit points interfere with student success, retention and completion, institutions should adopt models that accelerate learning to reduce exit points and support students' entry to college (including career and technical, CTE) courses.

- Students must be encouraged/advised/allowed to complete developmental education classes in one to two terms. In the accelerated model, students complete their developmental coursework in one or two terms while they are simultaneously introduced to college and/or transfer level coursework. In all models for acceleration, college-level work must be included/contextualized in the curricula.

Various models for acceleration from which institutions can choose include:

- ✓ Integrating Reading and Writing courses ;
 - ✓ Combining levels of Reading or Writing (i.e. Reading 80 with Reading 90);
AND/OR
 - ✓ Providing an option of a Reading and Writing developmental course co-requisite with a college level course.
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- An additional strategy to accelerate learning and reduce exit points institutions should consider is establishing a multiple path approach to Reading/Writing/ Literacy to reflect Professional/Technical students' degree and certificate requirements as different from transfer students' endpoints in reading and composition.
 - Institutions should offer developmental level courses for students who place below the developmental level provided the institution offers those students support services.
 - The developmental education course of study must be constructed from college-level curriculum (backward design, an approach that begins with the desired outcomes and works backwards through the curriculum design process to achieve them). This could be linked to OWEAC. (5)
 - To implement the backward design mandate, colleges will create structures in which conversation among all faculty members who teach reading/writing/ literacy curriculum can occur. This includes reading/writing participants in the developmental education work group, representatives from developmental education reading and writing departments, those in the college-level English departments (where they are distinct from developmental education staff), colleagues in the ABE/GED/ESOL departments, colleagues in paired "content" areas, and appropriate colleagues in the Oregon University System and local high schools.

DRAFT RECOMMENDATIONS: Professional Development

- Institutions should endeavor to provide professional development and support to faculty in research based practices that result in acceleration and completion.
- Institutions should provide professional development as part of continuous improvement around best practices identified by collection, analysis and evaluation of data.

DRAFT RECOMMENDATIONS: Data Collection

- The state and/or colleges should collect data to provide institutions and the state with insight into what approaches to developmental education lead to student success. ²
- Institutions and the state should disaggregate the data to ensure equitable education opportunities for under- resourced, underserved, underrepresented and historically excluded student populations.
- Institutions across the state should agree on what data to collect, how it is collected, by whom it is collected and how it will be interpreted for comparative purposes.