

Developmental Faculty Response to

Weber State University Developmental Mathematics Program Review

At the beginning of the program review process, the members of the Developmental Math Program identified three areas for focused improvement – student placement, program assessment, and equitable and inclusive teaching practices. We selected reviewers who we saw as specialists in each area. Our hope was to receive several solid recommendations in these and any other areas the reviewers recognized as needful.

We are pleased with the commendations we received. Many indicate improvements made based on recommendations in past reviews. We are disappointed in receiving many recommendations in areas where we are already meeting the expectation of that recommendation. In such cases, we have thoroughly explained what we are doing in that area. At the end of this document, we are proposing an updated and somewhat edited list of recommendations that, with approval, we plan to carry forward into future reporting in our biennial reports.

Note: In this document we have edited the text of any lengthy original recommendations to state the specific recommendations and have removed the explanatory information included in the recommendation.

Recommendation: The program should become a department completely housed in the College of Science under Dean Dr. Andrea Easter-Pilcher.

Response: We agree with this recommendation. Developmental mathematics has long been treated as a temporary organization that supplements the needs of the university, when in fact, a quality developmental mathematics department is integral to the success of the university and most Weber State students, including the large, existing non-traditional and the growing minority populations. We will be bringing forward a full proposal soon.

Recommendation: With the change to departmental status, the faculty are moved from the non-tenure track to the tenure track faculty lines over several years, thus requiring higher credentials, preferably a Ph.D. in mathematics education, and the requirement of scholarship in their field as it pertains to learning mathematics. Current full-time faculty are given the opportunity and time to complete their Ph.D. work in mathematics or mathematics education.

Response: We would like to improve the job security of our existing instructors and honor their long-term loyalty to Weber State, while opening the door to attracting faculty with higher credentials into positions that require more than that of someone in a temporary position – service and scholarship, in addition to teaching. Currently, Developmental Mathematics instructors are expected to do the operational work of the department (committees, course design, course leads, etc) in a teaching-only position. They experience low morale due to being in temporary positions with low pay.

The institution has slowly moved forward the idea of a Senior Instructor position, but details about how it will be administered are unknown. This will be an improvement for

our loyal, long-term instructors, but not helpful for continuing to attract quality candidates. Therefore, we need an entry position that is not temporary and pays better. This year we were able to make a significant increase to the starting salary, but still starting in the mid- forty thousands. Ideally, we would like to hire tenure-track faculty with PhDs, preferably in Mathematics Education. (See also the recommendation below to improve diversity in the faculty.)

As for requiring existing faculty to get doctoral degrees, we would like to explore options here. Possibly we could grandfather master's degree holders into the tenure track. This has been done in other universities.

Recommendation: The budget is in the College of Science under the administration of the Dean Dr. Andrea Easter-Pilcher. This will enable the Dean to better support the efforts of the department to build foundational math skills.

Response: We support this recommendation and invite the institution to seriously consider it.

Recommendation: Focus hiring on diverse faculty to enable the ratio of diverse students to start approaching that of the faculty.

Response: We agree on the need to have a more diverse faculty. At this point, hiring male instructors is a move in the direction of diversity, and we have just hired two new male instructors (albeit Caucasian) to start July 1, 2023. This brings our full-time instructor count to 9 women and 4 men. In the past 10 years, we have had one non-Caucasian candidate who qualified for and was willing to participate in an interview. She withdrew her application before we were able to make an offer. It is, in fact, difficult to find any candidates willing to accept a full-time position at the pay we are allowed to offer, currently \$45,000/yr. In addition to trying to improve the attractiveness of our position, we plan to use the resources available from the EDI office to write a job posting that is more inviting to diverse candidates the next time we have a position available.

Cohesiveness of Program (Student Learning Outcomes/Assessment)

Recommendation: The program has a common goal (benchmark) for assessment that is related to the mission and vision of WSU and that directly supports student success.

Recommendation: The full-time faculty are trained on how to access, analyze/interpret, and/or generate data for assessment.

Recommendation: All faculty are made aware of the results and there is a common goal to address the outcomes of the assessment.

Response: (to two recommendations above) Agreed. Assessment is an area that needs improvement (see related response below). We will work with the Office of Institutional Effectiveness to address these recommendations.

Recommendation: The assessment focuses on rewriting the narrative of developmental math being a place where many failures happen and the only place to make the at-risk student successful.

Response: Our interpretation of this recommendation is that our assessment would demonstrate that many successes happen in developmental mathematics and that we do not hold the sole responsibility for the success of at-risk students. Therefore, we should communicate these positive assessment results broadly. We have campaigned about our positive results for years and will continue to do so.

Equity, Diversity, and Inclusion Lens to Data (Student Learning Outcomes and Assessment)

Recommendations:

Along with training faculty on how to locate the data, we recommend doing a yearly review of program-level data (e.g., DFWI) through an equity lens.

A recommendation is to see how many students have taken the same math course and not passed. Moreover, disaggregating DFWI rates can help identify what instructional practices or elements within a course are addressing or creating barriers to equity for minoritized students

We recommend additional training for faculty and staff on how to utilize Starfish and its connection to DFWI and embedding and integration of services to support teaching excellence and student success (described below).

Response:

The request to train faculty on how to locate data (in this and the previous section) brings up the question of what is the duty of an instructor on a one to three-year renewable contract? Is this a reasonable expectation? Data collection and review is the responsibility of the program manager. That said, several instructors are interested in and willing to look at more data. The program director analyzes many statistical reports, with the assistance of the advisor and some instructors, and disseminates that information in the department. We help pay for a part time statistician who works in Institutional Research to be available to do the many independent studies we request. We have DFWI data, but we have not looked at it through an equity lens. We are happy to add this to our data review.

For several years we have tracked student repeats of our classes. This was a serious concern many years ago, so we set up a system for our advisor to identify and track these students, reaching out to meet with them. In recent years, students are much more successful in our courses due to improvements in curriculum and instruction. It is rare for

a student to take a class more than 2 times. The overall pass rate of our courses is well above national averages for developmental mathematics.

Our greatest challenge related to Starfish is that our advisor has not had the access and tools needed to identify Dev Math flags readily. Access has recently been made available to us. Starfish flags are sent to the student's major advisor or to Jesus Garcia, if the student is in Wildcat Scholars. The major advisor then attempts to contact the student.

Since all our faculty diligently reach out directly to students at the first sign of trouble with “course performance and/or attendance,” we find Starfish to be just one more attempt at reaching students who are non-responsive to our attempts. We can invite a Starfish representative to meet with us again in the future to address any concerns on either side. Overall, we haven’t found Starfish to be more successful than our own internal efforts. From our experience, most flags are closed with no response from the student. Most, if not all, faculty use it regularly, but we can verify faculty knowledge and use of Starfish.

This portion of this recommendation is unclear and we cannot respond to it: “and embedding and integration of services to support teaching excellence and student success (described below).”

Alignment to eHSI Strategic Plan (Relationships with Communities)

Recommendation: To move towards meeting WSU’s strategic plan, we recommend: (1) identifying the number of Hispanic/Latino students and their DFWI in Developmental Math, (2) training and preparation for faculty, adjuncts, and staff on the experiences and success of Latino/Hispanic students in developmental math courses and successful models, and (3) collaborate with multiple campus partners to help Hispanic/Latino students to identify and understand their math pathway.

Response: We find these recommendations valuable and will proceed to work on these action items.

Additionally, several instructors have participated in ACUE courses on “Inclusive Teaching For Equitable Learning” this past year. Two faculty completed a 6-week course. Two completed a full-semester course. One or more are on track to complete the full-year course. These courses teach, among other topics:

- Managing the Impact of Biases
- Reducing Microaggressions in Learning Environments
- Addressing Imposter Phenomenon and Stereotype Threat
- Creating Inclusive Learning Environments
- Designing Equity-Centered Courses

Online Math Instruction (Curriculum/Faculty/Student Learning Outcomes and Assessment)

Recommendation: Assess and screen students for their ability and motivation to participate in an online mathematics course before approving their enrollment in an online section. Advising should be mandatory for online students. Technology support and training should also be available to students.

Response: For many students, online courses are their only access to higher education. We cannot gate-keep methods of instruction, but we make several attempts to communicate course requirements and expectations to students. Canvas course pages explain what it takes to be successful in online courses. Additionally, prior to the semester, our advisor contacts students in online courses with this information. Faculty also send emails to students prior to the semester providing information about types of courses and how to find the right one for their learning needs.

Recommendation: Offer learning support online. Online math tutoring should be provided with well-publicized hours and available scheduling in the Learning Management System.

Response: Math tutoring is offered by WSU Tutoring Services and is out of our control. Our faculty provide information about tutoring and refer students to tutoring. Students can link to tutoring in Canvas (see below for more information related to online learning support.)

Recommendation: Vary instructional methods online. It appears that the online instructional model being employed for developmental math is self-paced and computer administered. The classes could likely benefit from structured learning progression and more engagement with the instructor and fellow students. When new content is introduced, perhaps the instructor could engage the class in small groups in synchronous meetings to discuss the content and offer support. Students who are struggling may benefit from being required to attend such sessions. Students might also benefit from collaborative learning whereby they are occasionally assigned to do projects/problems with their fellow students in the class. The students may also benefit from the instructor adding more of their presence and teaching style to these courses. Providing custom videos and other content, discussion forums, and routine office hours may be helpful to students. **(Response included with next recommendation)**

Recommendation: We recommend focusing on improving course delivery methods for online-only developmental math courses. In particular, how to meet the needs of minoritized students and students with disabilities.

We recommend offering a stipend for contracted full-time faculty and adjuncts to complete a WSU Online eLearning Certificate.

Response: We offer synchronous virtual courses that implement frequent small group work. In regards to the asynchronous online courses, we agree there is a need to create more engagement with fellow students. The online instructors are highly engaged with

their students, sending weekly update messages, and regularly encouraging students who lag behind. Faculty offer routine and on-demand office hours, along with answering emails 7 days a week. The instructors have also created many videos to supplement the course curriculum. We have more than a dozen "How to" videos for online students to watch which detail how to maneuver through the technology in the course, how to maneuver through the math resources, how to acquire extra free tutoring options, and how to become a more proficient online student. In Canvas, there are pages dedicated to: the Math Tutoring Center, the WSU Discord website (tutoring/discussion forums), the WSU one-on-one Appointment Tutoring Center, and numerous beneficial mathematics websites. Also in Canvas are pages dedicated to the Dev Math Learning Specialist (Katrina Marriott), the College of Science Learning Specialist (Brian Pilcher), and the WSU Disability Services Office. In addition to the above academic support pages in Canvas, there are IT support resources listed as well (WSU IT Support, WSU Canvas Support, Proctorio Support, MyLabMath IT Support). There are several "How to" videos for the online courses which step the students through each process of their online math program.

As for the WSU Online eLearning Certificate, one instructor provides this feedback: "I applied to the eLearning certificate program and was told my learning goals for the class "improved navigation for students - making the course user-friendly" were not in alignment with the content of the course. The course is about "backwards designing" a class delivered via Canvas. We have aligned our curriculum, previously, so the eLearning certificate seems to be irrelevant to this suggestion."

Recommendation: It was mentioned that only full-time faculty are allowed to teach online (asynchronous courses). Adjunct faculty should have the opportunity to teach courses beyond face-to-face, to hybrid and online courses.

Response: Adjunct faculty teach some of our virtual courses, but they will not be teaching online asynchronous courses. The online courses are reserved for full-time faculty to help them earn a livable wage.

Recommendation: Collaboration with the Teaching Learning Forum (TLF) and the Developmental Math program is needed to identify the types of courses, training, and resources that are relevant to their needs.

Response: Several instructors have participated in TLF events such as Canvas trainings and general student success presentations. We can reach out to the TLF to identify our training needs relevant to online learning.

Adjunct Faculty (Faculty)

Recommendation: Give the adjunct faculty their own office space. It is important to them and their students that they have a workspace in the campus community.

Response: Office space is outside the control of Developmental Math. We are aware the College of Science is working to create adjunct workspace and will invite our faculty to use it.

Recommendation: Invite adjunct faculty to attend faculty meetings and campus events and provide support for them to engage in professional development offered within the institution. If they are not paid to engage in such activities, do not require them to attend.

Response: Past invitations to adjunct to attend faculty meetings did not result in adjuncts attending faculty meeting. We can certainly renew the invitation. Adjuncts are invited to attend regional conferences at the expense of the department and one or two have done that. They receive the same invitations for professional development or other relevant campus events that full-time instructors receive.

Integrated Student Success Supports (Support)

Teaching Excellence

Recommendation: Since there is a large number of minoritized students in the Developmental Math program, we recommend providing all faculty and adjuncts with specialized professional development on how to integrate culturally responsive pedagogy and how to operate through an asset-based approach.

Response: Faculty are encouraged to participate in professional development about inclusive and equitable mathematics teaching practices. In addition to the ACUE course participation listed on page 4, the program director participated in a 4-day MAA workshop last June on this topic and shared summaries of the materials with all the faculty. This information was reinforced at the fall departmental meeting, where we discussed what was learned in our summer book read on related topics.

We appreciate the information about the CR-S Framework and will include this and using an asset-based approach in our fall professional development meeting. The program director has been seeking and learning from resources about writing culturally relevant curriculum, which has been implemented in the Math 1010 IEL curriculum. Additional resources on being culturally relevant are appreciated and will be utilized.

Some faculty feel they could spend more time on professional development if they weren't teaching the maximum allowed overload to earn a livable wage.

Student Success

Recommendation: While the concern of bias and labeling of individuals is valid, the practice of non-disclosure from the Developmental Math Advisor to Faculty about the possibility of having Wildcat Scholars in their classes is not a common practice across the university. The Wildcat Scholars Program is a learning community that has purposefully designed courses that help students build a solid foundation for college success. The eligibility for this program is only based on Math Placement 1, 2, or 3 AND an English Placement 1 or 2 (see website:

<https://www.weber.edu/wildcatscholars/apply.html>) and not on being part of a protected class (e.g., disability, veteran status, etc.). According to the website, they offer a welcoming support network to students as they transition into college through comprehensive financial, academic, and personal support. Inviting faculty to learn about their students and if they are part of this learning community is key to developing positive and professional relationships. Faculty and adjuncts can be trained on culturally responsive ways to inquire about students' backgrounds to leverage resources. For example, a faculty member knowing about a student's participation in a learning community can be beneficial. The faculty member can encourage them to reach out to their program mentor/advisor if they are facing any challenges academically. This can be done by posting/sharing information about the Wildcat Scholars Program's services, resources, and events with all students via Canvas messaging or announcements.

Response:

Our interpretation of the recommendation being made here.

Developmental Math faculty should develop positive and professional relationships with their students, particularly those in the Wildcat Scholars program. Additionally, faculty should be trained on culturally responsive ways to inquire about students' backgrounds so they can leverage student resources.

We agree these are good things to do. We have spent years learning about how to develop positive and professional relationships with our students. We seek to do this for every student. The program review report did not specifically indicate a weakness in this area. Student evaluations of instructors are full of positive and appreciative comments about our faculty. Nearly every instructor has at least one comment about being the "best math teacher ever." Most receive comments of gratitude for being such a patient, caring teacher.

As stated in the previous recommendation, we will specifically learn more about "culturally responsive ways to inquire about students' backgrounds" so we can "leverage student resources" while being cognizant of legal restrictions related to disability, veteran, etc. status.

The information in this section is focused on a one-credit course that is not representative of our full program. This is an experimental course that was designed by and offered at the request of the Wildcat Scholars program, and against the preferences of the developmental math program director and faculty. The purpose, mission, and goals of the Wildcat Scholar Math 0810 course does not align with the Dev Math philosophy of best practices for developmental math learning. Wildcat Scholars (WS) administration is specifically trying to get their students to bypass taking Math 0950 (or any other developmental math course) so they can enroll directly in Math 1035. Many Wildcat Scholars lack the student skills necessary to persist through difficulty in addition to lacking basic mathematics skills. The goal of the WS program is for their students to complete QL math in their first year of college, yet these students are not ready for college level math. They can enroll in Math 1035 with a prerequisite of Math 0950 or appropriate placement score. Because most of the WS students lack student skills, the WS program does not want them taking a full math class in their first semester.

Therefore, the plan is to put them in a self-study course, with faculty support, that meets one day a week during fall semester. In this class, students work independently on computer software trying to improve their math placement score. We have been experimenting with this class since Fall 2021. If the decision were ours alone, we probably would not offer it. We feel it is not the best learning approach for at-risk students. In spite of making regular adjustments to the course, 43.6% of the Wildcat Scholars improved their placement by one or more levels in Fall 2022. There are two ways to interpret this data. The most obvious is to see it as a big failure. However, given a group of students who were unable to place into college level mathematics, we were able to get nearly half of them into a college level co-requisite course for their second semester. All instructors of Math 0810 know which of their students are Wildcat Scholars. Most Math 0810 students are Wildcat Scholars.

Recommendation: Due to the short amount of time allocated, we recommend for future review scheduling additional time or one-on-one meetings with the various campus partners. In addition, we recommend allocating time during faculty meetings or the yearly faculty retreat for these partners to be invited to share the types of services and resources they offer to students that are served through the Developmental Math program. A list of available resources can be shared with current faculty and adjuncts.

Response: Working closely with campus partners has always been a priority in our program. We are appreciative of the large response to our invitation to talk to reviewers. We have in the past invited these partners to faculty meetings and the retreat. We will reach out to everyone who was at the program review and invite them to meet with us if they have concerns that are not being addressed.

A list of available resources is included in our department employee handbook. We can remind all adjuncts of this resource.

It may be necessary for a future program review team visit to last two days to accommodate meeting with all campus partners.

Recommendation: Increase understanding and training for all faculty and staff about the Starfish Progress Surveys on how it is a tool to streamline means for faculty to give feedback to students on course performance and/or attendance.

Response: Our greatest challenge related to Starfish is that our advisor does not have the access and tools needed to identify Dev Math flags readily. We have made that request, without success, thus far.

Most, if not all, faculty use it regularly, but we can verify faculty knowledge and use of Starfish.

Since all our faculty diligently reach out directly to students at the first sign of trouble with “course performance and/or attendance,” we find Starfish to be just one more attempt at reaching students who are non-responsive to our attempts. We can invite a

Starfish representative to meet with us again in the future to address any concerns on either side. Overall, we haven't found Starfish to be more successful than our own internal efforts.

Academic Advising

Recommendation: Investigate and experiment with group advising during orientation and the FYE course. Train the advisor(s) to assist students in considering their math placement (i.e., speak with them about affective challenges to math). Train them to assist students who are considering online courses.

Response: Developmental Math program has an advisor/learning strategist who works with students who seek assistance or are referred by faculty or campus-wide staff. She addresses issues such as placement, math pathways to QL, learning skills, and finding the course with the pedagogical methods best suited for that student, i.e. online, f2f, virtual, etc. Dev Math representatives meet regularly with campus advisors to update them on math advising knowledge.

Additionally, since so many students self-advise, the Dev Math advisor reviews every student enrolled in Dev Math courses to make sure the student is taking the best course for their major. She emails those who are in the wrong course, providing information about the math pathway they should be on, and inviting them to meet with her for more assistance.

Recommendation: If you have a grant writer or interested party in this area, write a Title III Strengthening Institutions grant to seek funding for an Achievement Coaching program. Reviewer Saxon has worked with another college to fund, administer, and evaluate a Coaching program that ultimately has provided great benefits to their developmental education students.

Response: We recommend the institution consider this advising recommendation, which is outside of the control of Developmental Mathematics.

Recommendation: All students should be referred to advising in their first semester, for a math placement determination. The placement can be done either through skills assessment testing and/or informed aptitude assessment, along with noncognitive assessment. Noncognitive assessment should include some measure of math anxiety and time-on-task assessment for engaging in math courses and content. All or parts of this process could be done through advising and assessment, and integrated with the FYE course and/or orientation if helpful.

Response: Dev Math does not have the authority to require students to meet with an advisor. We do work collaboratively in committees coordinated by the Associate Provost of Academic Program Quality, Planning, & Institutional Effectiveness to consider student needs in these areas. Including non-cognitive assessment for placement is a valuable recommendation. While our current placement rubric provides some non-cognitive insight, we do not have anything in place for students who don't have the information

needed to be placed by the rubric and are required to take a placement test. We will seek out a way to accomplish this.

In their enrollment welcome letter, new students are given their math placement (via the rubric), or told they need placement. The Weber Welcome program encourages doing placement testing on the day they come to campus for a tour.

We have requested a report to be developed to identify students who have no math placement so we can communicate with them more effectively about their options to complete QL. In the meantime, as soon as registration opens, our advisor tracks students enrolled in Math 0950 who have no math placement, and communicate with them to provide any/all information they may need regarding placement and math paths. We make great efforts to encourage students to take math early in their college work, and have seen great improvements in recent years. We cannot force enrollment in our courses. Mandatory advising on campus would help this effort. Student self-advising hinders success.

Recommendation: Late enrollment should not be allowed for developmental mathematics classes.

Response: Late enrollment is not allowed for developmental mathematics classes. University policy is students can enroll in ANY course, for which they have placement, through the end of the first week. After that, students can only enroll via a department override. We have the added condition that the instructor of the course must approve the request and all "late adds" must occur no later than the Friday of the second week. However, the majority of our instructors do not allow students to add their class past the Monday or Tuesday of the 2nd week. These late adds are intended only for students who realize they are not registered in the best class for their ability and need, therefore we let them change classes. There are no adds in the 3rd week of the semester, except for extreme exceptions to our policy.

Recommendation: Study the number of ALEKS retakes that students are engaging in. See if there is any adverse correlation in student learning/success relative to the number of retakes. Take action based on the results.

Response: While the reviewer cited literature that a skills assessment is not intended as a teaching and learning tool, the ALEKS software program has a teaching and learning tool integrated with the assessment tool, and therefore, is intended for this use, with 5 assessments available in each ALEKS enrollment. Additionally, we see little difference between recommending students "brush up" prior to taking a placement test (as the reviewers suggested) and using a program with the review built into it. The majority of students who use ALEKS will enroll in it twice, usually because they didn't fully use the program before their registration expired. Additional re-enrollments are allowed for students who are making consistent progress toward their placement goal.

Recommendations for Continued Consideration and Improvement

As mentioned in the introduction of this document, this is the list of recommendations that we plan to carry forward into future reporting in our biennial reports.

General

Recommendation: Focus hiring on diverse faculty to enable the ratio of diverse students to start approaching that of the faculty.

Cohesiveness of Program (Student Learning Outcomes/Assessment)

Recommendation: The program has a common goal (benchmark) for assessment that is related to the mission and vision of WSU and that directly supports student success.

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Adjunct Faculty (Faculty)

Recommendation: Invite adjunct faculty to attend faculty meetings and campus events and provide support for them to engage in professional development offered within the institution. If they are not paid to engage in such activities, do not require them to attend.

Integrated Student Success Supports (Support)

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Recommendation: Due to the short amount of time allocated, we recommend for future program review scheduling additional time or one-on-one meetings with the various campus partners.

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Academic Advising

Recommendation: Include non-cognitive assessment in placement, including some measure of math anxiety and time-on-task assessment for engaging in math courses and content.

Recommendations we encourage the institution to consider

Recommendation: The program should become a department completely housed in the College of Science under Dean Dr. Andrea Easter-Pilcher.

Recommendation: With the change to departmental status, the faculty are moved from the non-tenure track to the tenure track faculty lines over several years, thus requiring higher credentials, preferably a Ph.D. in mathematics education, and the requirement of scholarship in their field as

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