

Dean's Response to the Program Review of the Developmental Mathematics Program

August 31, 2014

I greatly appreciate the thought and effort that went into the report from the Program Review Team, as well as the self-study and report response by the Developmental Mathematics Program.

During this review cycle, I requested that the program select external Reviewers without any ties to the program in order to ensure the most objective review possible. Director VanWagoner requested that at least one Reviewer be from Weber State and I agreed to allow this. Consequently, the review team recommended by Director VanWagoner included three external Reviewers and Dr. Kristin Hadley of the WSU School of Education, thus providing an outstanding cross section of disciplinary professionals.

During their visit, I provided the Reviewers with copies of the Program Review Workbook supplied by the Office of Institutional Effectiveness in addition to a list of specific questions that I felt would help guide the evaluation (appended). I assured the Review Team that their honest and objective observations, responses, opinions and suggestions were expected. They were asked to consider the questions in developing a SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats), which would comprise the core of their report.

Unfortunately, the report ultimately submitted by the Review Team failed to address many of the questions provided and also failed to provide a clear SWOT analysis. In retrospect, the perceived lack of focus on programmatic, and especially on curricular issues related to Developmental Math may be due, in part, to the lack of detail provided in parts of the Self Study itself, which I had approved previously. Nonetheless, despite these observations and outcomes, the corresponding report reflects the views and opinions of the Reviewers, and appears to be thoughtful in its assessment of the Developmental Mathematics program at Weber State University.

In their report, the Reviewers identified a number of strengths, including faculty willing to innovate and dedicated to addressing student needs, and the well-equipped HUB facility. These are well summarized in the Review Team report and acknowledged in the Program Response. I agree fully with the both the Reviewers and the Program that a number of strengths are evident within the program and among the faculty.

The Review Team also made a number of recommendations that comprise the heart of their review and to which Director VanWagoner addressed her responses. Collectively, it is to these that I focus my comments, below.

1) Reviewer's Recommendation 1: Implement a tenure process for developmental math faculty, which may include a need to reorganize the program into a department that includes other courses.

Program Response: Agree. Faculty have felt their voices are stifled. A freer exchange of ideas and proscriptions has great potential for improving the effectiveness of the department. As an example, when the TERM program was proposed, the opinions of the developmental mathematics faculty were not sought. The expertise of the faculty could have improved decision-making related to the adoption and implementation of the program. The developmental mathematics faculty are very willing to work with administration to set up a tenure process and establish stronger job security.

Dean's Response to Recommendation 1: Three issues arise from the Reviewer's recommendation and from the Program Response.

First, it is not clear to me whether the issue is job security or a sense of value and belonging, given that one does not necessarily equate to the other. Regardless, at Weber State, the ability to tenure faculty within the Developmental Mathematics (hereafter "Dev Math") program presently is constrained by the College of Science Tenure document and possibly by the PPM. Moreover, the program's mission to provide education to students who need to develop skills necessary to succeed in a university environment is complicated by a constantly changing landscape that is shaped, among other things, by the success (or lack thereof) of the K-12 system, and by non-traditional students whose enrollment numbers often vary with economic conditions. Given these and other variables, the numbers of students who require developmental education may vary on a year to year basis.

Consequently, even if it was possible to tenure Dev Math faculty, questions concerning how many faculty are needed and which faculty should be tenured become potential issues. A related concern is that currently, the College of Science Tenure Document states: "The basic minimum degree requirement is the attainment of the earned Ph.D. in the discipline of primary responsibility." Unless the current expectations are changed, the implication here is that all current Dev Math instructors would have to complete a Ph.D. in order to achieve tenure, or that new tenurable faculty with appropriate credentials would have to be hired. Neither seems to be a viable, or attractive alternative.

I do not think that the key issue necessarily should be tenure, but I fully agree that a year to year appointment can be demoralizing. Moreover, I also agree that we need to improve the perception of how Dev Math faculty members are viewed by and within the institution. To that end, I will work with the Director and others to attempt to improve the stature of Dev Math faculty as valued colleagues within the College and the University Community. Moreover, I will raise the question of tenure for Dev Math faculty with the College Tenure Committee and with Academic Affairs. However, having said this, I do not consider tenure to be a likely outcome for the reasons noted above. Instead, having reviewed the current PPM and found that after the first year, instructor appointments may be made for two years, I am willing, with the Provost's approval, to move to this model in the future for Dev Math faculty in order to improve their job security. Along these lines, I have already raised the possibility with the Deans Council of changing the PPM to allow 1, 2, or 3 year non-tenurable appointments to be made to instructors (pending an annual review, a demonstrated need, and available funding), and have been informed that this request will be taken up by the Faculty Senate this year. I am hopeful that the Faculty Senate will agree to this small change given the potential positive impact on Dev Math faculty. In this regard, I would hope that a three- (or even a two-) year appointment would be preferable to the current one-year system and I will continue to request and support such longer-term appointments for Dev Math faculty who demonstrate that they are competent educators who put student success first, are strongly rooted in teamwork, and who embrace best practices, explore innovations, and continuously practice formative evaluation and self-improvement as a result. Frankly, I expect this from all faculty within the College of Science.

Second, the idea of reorganizing the program into a department that includes other courses is intriguing, and one that I have pondered at times. The Reviewers specifically recommended that WSU consider reorganizing Dev Math "into a department by including other courses (e.g. Quantitative Literacy, Math for elementary teachers) that would be a good fit." Such changes would require a complete reorganization of both Math and Dev Math, but would not necessarily involve tenure for Dev Math faculty without a terminal degree, which I think would be a PhD in Math Education. In this regard, more discussions and deliberations will be required, and I will continue to explore various possibilities along these lines.

Third, while the Dev Math response may be correct in voicing the perception that its faculty "have felt that their voices have been stifled," in my view, it is incorrect in stating that "As an example, when the TERM program was proposed, the opinions of the developmental mathematics faculty were not sought." While the TERM program was instituted prior to my tenure as Dean, I have discussed this charge with my predecessor and also have reviewed a draft document prepared by Dev Math faculty member Loyal Baker explaining the TERM history for NADE certification. An excerpt from Mr. Baker's draft history appears here:

"...In March, 2009, Dean Ostlie attended the 2nd annual conference of the National Center for Academic Transformation (NCAT) in Orlando Florida. This was a weeklong conference where many disciplines and approaches to improve developmental education were presented. Dr. Ostlie was very impressed with Virginia Tech's presentation of their approach to developmental math. Virginia Tech had acquired an old abandoned building that had been part of the Emporium outlet chain of stores. This building had been remodeled to accommodate developmental math students to work on computers. Therefore, they called this approach to teaching developmental math "the Emporium Model". After Dr. Ostlie returned to WSU, he met with Dr. Thaeler and the Developmental Math faculty to present to them the ideas and course redesigns in the Emporium Model. A steering committee was organized in late Spring, 2009, to address the possibilities that WSU Developmental Math Program might develop its own version of the "Emporium Model".

This steering committee was made up of highly motivated and skilled educators from across the campus: Continuing Education, Instructional Designs, University communications, members from Information Technology (I.T.), Facilities Management, and, of course, Developmental Math faculty. Those participating from the Developmental Math Faculty were made up of eight well-qualified and energetic faculty members. These were sometimes called the WSU Eight. There were: Dr. John Thaeler, Carrie Quesnell, Brenda Acor, Pamela Schilling, Dave Imig, Alan Lore, Amanda Hadlock and Bret Ellis (DEAN COMMENT: I note that Alan Lore was CE and Bret Ellis was IT, so not sure why they were included here). During the next few weeks, the WSU Eight visited Cleveland State University in Memphis Tennessee and University of Alabama in Tuscaloosa, Alabama. Dr. Thaeler and Dr. Kathleen Lukken were the co-Chairs. Dean Ostlie attended the steering committee meetings, but the steering committee was run by Dr. Thaeler and Dr. Lukken. It was after the visits and after members of the steering committee visited the 2010 NCAT conference that the final decision was made by the group to move forward with development of WSU's version of the Emporium Model...."

"...There was a committee set up for each class to prepare the class for implementation. Those assigned to Math 0950 were Mary Ellen Yonkee, Pam Schilling and Alice Allred with Pam Schilling as chairman. Those assigned to Math 0990 were Brenda Acor, Loyal Baker and Darrell Poore with Brenda Acor as chairman. Those assigned to Math 1010 were Carie Quensnell, Mary Jo Hanson, Dave Imig, Jeremy Floyd and Christine Marx with Carie Quensnell as chairman. These committees prepared homework, quizzes and tests for their respective class and worked together to try and minimize subject overlap."

Considering the preceding draft accounts, written by one of their own, it seems clear that the Dev Math faculty were provided with considerable input into the TERM project, and moreover, collectively agreed to its establishment and design. Thus, using such an argument to make a case for granting tenure to Dev Math faculty is, in my view, inappropriate. Nonetheless, I look forward to discussing with the Dev Math faculty how other concerns can be addressed and morale improved as we move into the future.

2) Reviewers Recommendation 2: Require students to complete or place out of their developmental mathematics courses before they begin their upper division courses.

Program Response: Agree. Developmental Math faculty have been discouraged by the removal of the Assessment and Placement Policy restrictions, and previous structures that have required students to complete developmental mathematics early. We are interested in working with administration to identify alternate approaches to encourage students to complete their math courses.

Dean's Response to Recommendation 2: *I agree fully with this recommendation, however, turning it into practice remains a more complicated endeavor. Please note that in the February 20, 2014 meeting, the WSU Faculty Senate passed the following resolution:*

"WHEREAS, 1) Developmental education at Weber State University provides an important foundation for preparing students for college-level coursework; and WHEREAS it is in the student's best interest to complete these requirements as early in their college career as possible ; and WHEREAS these courses provide fundamental skills required in general education and major-level courses ; and WHEREAS recent language in PPM 6-2 removed provisions requiring early completion of these courses; therefore be it RESOLVED That the Faculty Senate encourages the administration to explore appropriate strategies to support students in acquiring these developmental skills and ensure that developmental courses are completed as early in students' coursework as possible."

This resolution was made in response to the retraction of the so-called "Three Strikes" Assessment and Placement

Policy that had been enacted previously and that attempted to focus student's attention on moving through QL (and Dev Math if required) in a consistent and persistent manner. I fully supported this policy and believe that, with care, it could be revised and re-instated. To this end, I am willing to work with the Director, the Dev Math Advisory Council, the Retention and Persistence to Graduation Committee, the Student and Faculty Senates, and any other relevant office or group to determine if a more palatable version of this policy can be devised and enacted in order to help improve student success in Dev Math.

3) Reviewers Recommendation 3. Students should be dropped from the course at 3 weeks if they have not shown up or logged in.

Program Response: Agree. If students are not participating in a course, they should not be retained on the rolls. The large numbers of students who fall into this category have a great effect on course pass rates. It is possible this problem will resolve itself as students are no longer forced to register for classes in which they have no intention of participating.

Dean's Response to Recommendation 3: I agree fully with this recommendation, and support the program's action plan to monitor this problem over the next year and collect data for analysis. I look forward to studying the assessment data collected by the program. Should the program wish, I will make myself available as needed to discuss how best to move ahead with such a plan.

4) Reviewers Recommendation 4. Weber State should take a serious look at defining Quantitative Literacy, and then backwards mapping the required developmental content from there. Not only would this provide guidance if additional testing and implementation of the Pathways model is pursued, it would also give Weber State a solid foundation from which it could discuss these issues at the state level.

Program Response: Agree. This recommendation is innovative and timely in the current culture of mathematics education. However, unless department reorganization takes place, as described in Recommendation 1, the developmental mathematics program is limited in the ability to affect change to quantitative literacy courses.

Dean's Response to Recommendation 4: I agree enthusiastically with both the Review Team's recommendation and the Program Response! However, Weber State is limited by USHE Regents Policies. Of these, the most relevant is R-470, which addresses Quantitative Literacy requirements as well as the need for expected learning outcomes, course content, and competency levels to be determined in relevant courses by a Major committee. In the case of Quantitative Literacy at Weber State University, designated QL courses currently fall under the aegis of the Mathematics Department. Consequently, the Math Department is bound by R470 to work with other USHE institutions to determine the outcomes, course content, and competency levels of currently designated QL courses. However, through my own examination of the WSU MATH 1030 course syllabus, I noted that the course content comprises a selection of topics that may be chosen by individual instructors and that do not necessarily align with the expected learning outcomes agreed upon by the Majors Committee. This seems to be at odds with the Majors Committee expectations. Thus, at the very least, it may be possible to engage the Math department in a process of better defining specific course expectations for MATH 1030 that align more fully with other USHE institutions. In this regard, I am willing to work with both Dev Math and the Math Department to achieve this goal for MATH 1030 and possibly for other QL courses as well. Alternatively, and if necessary, it may be possible to engage others, including other Deans, CAOs, Presidents, or Trustees to ask the Math Majors Committee to better define QL expected outcomes and course content. Along these lines, I also will continue to push for a larger and more comprehensive discussion of what constitutes Quantitative Literacy for Weber State, as well as for USHE.

5) Reviewer's Additional Recommendation 1: Develop and implement a "boot camp" or bridge program. The logistics would be to take an assessment test and then be given the option to take the course they place into OR to do a three or four-week, intensive, self-directed TERM program to review as much content as they individually need to. They could then retest and place into a more appropriate mathematics course. Consider reviewing ALEKS for this type of program. It is extremely effective for giving directed review.

Program Response: Agree and disagree. A summer bridge or boot camp is needed for incoming students.

However, experience has shown that the majority of our incoming students do not fall into the category described by the review team, of needing a quick, intensive review of the content. Those who fit this description do have the option of using Fast Track to move through a quick review of content. Most incoming students are needing more than a review. Also, computer-based summer program is not ideal for our incoming student population. They need to learn with pedagogies that are more likely to motivate them to learn what has always been difficult for them to learn. Currently, students can complete an intensive summer program in a second block flipped summer course.

Dean's Response to Reviewer's Additional Recommendation 1: At the outset, I want to point out that Bridge Programs and "Boot Camps" are not necessarily the same thing; the former is aimed more towards transitioning high school seniors into college, and the latter more typically pertains to helping any students who require a concentrated review of material previously learned prior to fully engaging the subject once again. Luckily, both Reviewers and the Program agree that both programs are needed. I agree with this need as well and am happy to work with the Program to ascertain how best to implement these.

Having said this, I become concerned whenever I see statements that rely on "experience" rather than presenting actual data. In this regard, survey results or other data could help to strengthen the Program's case and I recommend that they gather appropriate data to support their assertions. If backed up by such data, then I will support their conclusion. However, until then, the Reviewer's suggestions seem reasonable and certainly worth considering, even if as a pilot. Moreover, I am also gratified to see the Reviewer's mention the ALEKS program as a potential tool for this type of program. In this regard, I have recommended that the Dev Math program test and evaluate ALEKS as a potential replacement for both Accuplacer and MyMathLab in TERM given its apparent success elsewhere in the US. I again make the recommendation that ALEKS should be evaluated at Weber State via a pilot program to assess both its ability to place students more accurately in Dev Math and QL courses, and also to better guide students through Dev Math courses in TERM. Please note the words "evaluated," "pilot," and "assess." To be clear: ALEKS should only be adopted more fully if, after an honest and objective evaluation, it improves student placement, learning and success.

Additional Dean Comments and Recommendations:

- 1) I recommend that the Program engage in surveying students more often and in a more focused way to better ascertain, from the students' perspective, how they can best be helped. The Director has adequate resources at hand to accomplish this with reasonable effort and the program may learn much from such exercises.*
- 2) I recommend that professional development activities for Dev Math faculty be continued, and if possible, expanded to the point where each instructor attends a relevant national workshop or conference every two to three years. Moreover, if not already in place, I recommend an ongoing in-house program of professional development for adjunct faculty be developed and provided by the full time faculty. Any such program should be developed with consideration of the workload of participating full time faculty.*
- 3) In reviewing the Self Study, I noted that the report stated:*

"We recognize that these are departmental outcomes, not student learning outcomes (especially #1 and #3). In a strategic planning meeting to be held at the end of this semester the faculty will identify student learning outcomes and an assessment plan."

I agree that those presented are not appropriate learning outcomes, and consequently would appreciate a report on the outcomes of the strategic planning meeting that was to be held last year. In addition, I recommend that regardless of the outcomes of the Reviewer's recommendations (#1 and especially #4), the Dev Math program should continue to develop more clearly defined essential expected learning outcomes for each course that in turn, can guide revisions of course content. Furthermore, I recommend that the program should also focus on developing

more relevant and more engaging approaches to the subject matter that explore concepts and develop analytical skills rather than focusing on operational procedures. As a starting point, there are ample examples of such approaches in the literature. To this end, I further recommend that for each course, a stronger formative assessment plan be developed that is specifically tied to the expected learning outcomes noted above. I stand ready to discuss ways in which my office can assist the program in addressing these recommendations.

4) I strongly recommend that the Program Director considers implementing an effort to enhance consistency among the different sections of each course. To this end, faculty teams should collaboratively devise the course syllabus, policies including grading rubrics and scales, the course outline, and lesson plans for each individual class or module from the standpoint of linking these to the expected learning outcomes for each course such that appropriate formative assessment may be done. Approaching the design and construction of these components from a team perspective has the potential to improve course consistency, and also can provide opportunities for each faculty member to learn from others. It is also a best practice for the Emporium Model and could be useful in courses using other pedagogical approaches.

5) Finally, I recommend that the Developmental Math Program undergo a full program review again during the 2016-2017 Academic year. Beyond that, a return to the five-year cycle is anticipated at this time.

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