**Department/Program Review Summary**

**2015-16**

**Department:** Developmental Math (DMA)

**Date of Review:** April 7, 2016

**Review Team Members and Titles:**

Dave Collins, Provost

Teresa Carroll-Parker, Manager, Student Success Advising Community/Career Advising

Bruce Clayton, Research Analyst, Research, Analytics and Reporting

Kimberly Collins, Advising Manager, Academic Advising

Michelle Cox, Associate Professor, Nursing

Jared Cutler, Assistant Provost of Accreditation and Assessment

Katie Earehart, Interim Manager, New Student Enrollment Center

Larraine Kapka, Division Assessment Coordinator, Science, Math and Engineering

Gina Neuerer, Professor/Chair, Music and Theatre & Dance

John Parcell, Professor, Music

Cheryl Reindl-Johnson, Professor, Business Information Systems

Rena Shuchat, Dean, Health Sciences

Julie Thompson, Academic Advisor, Connect 4 Completion

**Department Members Present:**

Tony Ponder, Dean, Science, Math, and Engineering

Brian Cafarella, Interim Chair, Developmental Math

Faculty and Staff:

Frank Bely

Patti Bromer

Juanita Darden

Jennifer Evans

Amity Jetton

Stacey Joseph

Eric Kraus

Mike Smith

Viet Tran

**Commendations**:

* Providing a strong foundation for our students who struggle with math preparedness as they arrive at college is absolutely crucial to their success – knowing this, Sinclair deploys many of its best and brightest in its Developmental Math courses to help ensure that these students receive every advantage possible as they strive to achieve their educational goals. The Developmental Math department is full of dedicated, caring faculty who provide excellent support to those Sinclair students who really need it most. It takes a special kind of person to teach students at this level, because faculty are in reality “engineering” mathematics in the minds of these underprepared students. There is an art to engaging students at this level, and it is a skill that not all faculty across the college possess, but that DMA faculty possess in spades. Term after term, year after year, DMA faculty continue to engage their students with energy and passion. On behalf of the entire college, the Review Team thanks the DMA department for their hard work and dedication to those students who need it most at Sinclair.
* The DMA department recently discovered that its DEV 0020 and DEV 0025 courses would no longer be eligible for direct Title IV financial aid. The department has worked proactively to find other ways to provide students with the necessary preparation, knowing that fewer of them will be able to take these courses without financial aid. The department’s quick and innovative response to this development is highly, highly commendable, and will have a definite impact on students who would have difficulty taking these courses without financial aid.
* The department came to the meeting with the Review Team prepared to address questions raised in the comments, and armed with additional data to provide a more complete picture of where the department currently is, and where it is headed. The Review Team was very, very impressed with the amount of preparation the department made for the meeting.
* While the department has undergone a considerable amount of change in recent years – change in department structure, change in leadership, and extensive changes in curriculum – the department has not only weathered these changes, but has experienced increased success in many areas. It is highly commendable that in the midst of a considerable amount of change, the department has managed to press forward, keeping a laser beam focus on increasing success for its students. This was very, very impressive to the Review Team.
* The increased success referenced above has included substantially increased course success rates, which the department attributes to both curricular changes and various initiatives designed to foster student success. The curricular redesign and other efforts represent a considerable investment of time and effort by the department, but it appears that this investment has paid off.
* The Review Team applauds the department’s work on contextualization, linking work in the course to real world scenarios that help students connect the principles they are learning with the world they experience.
* The department has taken innovative steps and bold risks in its attempts to increase student success – the work the department has done with curricular redesign, both in terms of the reduction in the number of courses in the sequence and the move to A-term/B-term scheduling has been a tremendous amount of work, and the easier path would have been to play it safe and keep doing things the way that had been done. The department can be proud of the fact that they haven’t taken the easy path, but have taken difficult steps in order to achieve the increases in success they are now experiencing.
* The department has done an outstanding job of not only developing common exams and activities, but structuring them such that exam items are mapped and “spiraled”, connecting those items firmly to content in ways that allow for nuanced assessment of student achievement of outcomes and concepts. Every question on the exams are mapped back to program outcomes, and every concept on the exam is reviewed at least four times, scaffolding the content to help improve student learning. There is a tremendous amount of depth and sophistication in the way that the common exams have been constructed, and this has allowed the department to identify questions that students missed most, and include more examples in class to address the identified deficiencies. This is excellent, excellent assessment practice, and should be continued in the future.
* The department has a reputation for being accommodating regarding scheduling, quickly adding sections when needed. Academic Advising also reports that the department works very closely with them, and is very accommodating and flexible to work with.
* While accelerating students through the curriculum results in a loss of FTE for the department, and in that respect is not advantageous to the department, it has developed innovative and successful approaches to moving students more quickly through their Developmental Math courses. These approaches have included use of the Math Academy and Boot Camps, both of which are extremely beneficial to students, and both of which ultimately reduce FTE in the department. This is indicative of a true prioritization of the needs of the students over the needs of the department, and the end result has been reduced time and expense for students in completing their Developmental Math coursework.
* It is highly commendable that so many faculty in the DMA department also teach in the MAT department. Not only does this help build strong connections between the two departments and foster an excellent collegial relationship, it also provides experience to DMA faculty that help them better prepare their students for college-level math courses. By teaching the MAT courses, the DMA faculty become intimately acquainted with the concepts and the level of understanding that they are preparing their DMA students for, and allows students to have confidence that the faculty really do know what their students need to know for their future coursework. It is hoped that DMA faculty will continue this trend in the future.
* The Review Team noted the extremely impressive increase in Average Class Size that the department reported in the self-study for the past several years. The importance of increasing Average Class Size cannot be overstated in this time of budget constraints and the resultant imperative need to reduce costs. The department deserves high commendations for its work in this regard, and for its conscientious attention to helping reduce costs for the institution.
* The Early Alert system is designed to assist students who struggle before it is too late for them to avoid failure in a course – the department has embraced Early Alert, and works hard to train adjunct faculty to use the system.
* The department has really done a nice job of developing program outcomes, and brought data to the meeting with the Review Team that indicates its students are making impressive progress in achieving those outcomes.
* The DMA department and its leadership appear to truly value data, and appear to use it in decision-making. They appear to truly appreciate the role that RAR can play in providing data that can drive decisions that help more of their students succeed.

**Recommendations for Action**:

* The DMA department has made impressive strides in improving course success rates – however across campus the perception is still that most students don’t succeed in these classes and that course success rates are very low. The campus at large needs to be made aware of these improvements, both because the department deserves more credit for the progress it has made, and because the outdated assumptions regarding success in DMA courses have the potential to influence decisions that are made at the college. The department needs to find a way to update the campus on improved success in its courses. These new results should be shared in Department Chairpersons Council, Provost’s Council, Division Leadership Team Meetings, and other venues where there are opportunities to educate college leaders and decision makers.
* The department also needs to find ways to communicate the different options for completing DEV MAT coursework to students. How can more students become aware of the Math Academy and Boot Camp options? Can adjunct faculty become more aware of the different options so that they can recommend these different modalities to students? It should be noted that the department does a good job of being flexible in allowing students to change modalities in the first week of classes, often working with students to switch when it is appropriate - this recommendation does not mean that the Review Team doesn’t recognize the excellent work that is already being done in this regard.
* What do we know about students who are “lost” from their DMA courses, who stop attending and never return? What more could we learn that might suggest strategies for intercepting students before they disappear? Could RAR potentially provide data and analysis that might serve to inform this issue? What about the use of a “pre-exam” – could the exit exam be administered on the first day of the course to help pinpoint how much students know, and identify students who don’t really need the course and might leave out of boredom and frustration, or students whose level of preparation is below what is needed for the course and may leave because they are overwhelmed?
* Another data issue that the department should explore is the relationship between success in Boot Camps and placement test scores. Currently the Boot Camps are conceptualized for those whose placement test scores put them just below college-level work – but perhaps Boot Camps are also effective in increasing success for students with lower placement test scores. Should lower placement test score students also be advised to take Boot Camps? The department is strongly encouraged to work with RAR to see what the available data can tell us about how well lower placement test score students fare in the Boot Camps. Boot Camps have the highest success, but the lowest enrollment – we need data to inform whether we should be directing more DMA students to this modality. Data comparing success in all modalities should be analyzed and used for advising students, particularly as students now begin utilizing non-credit Boot Camps due to the new financial aid restrictions on DEV 0020 and DEV 0025.
* The department should not only continue to track student success in the redesigned curriculum, but should also collect and analyze more data regarding DMA student performance in college-level Math courses. The department should work with RAR to collect more longitudinal data. Also, success stories of students who started in DMA courses and went on to graduate and transfer to other institutions should be collected and shared.
* During the meeting with the Review Team, a lack of confidence in placement test score validity was expressed by many participants. It may be that using alternative ways of identifying students who require math remediation would be beneficial to students. Since COMPASS is no longer available, other institutions in the state are being forced to find other ways of identifying students who need remedial math. The department is encouraged to pay close attention to other Ohio institutions who are no longer using COMPASS – what methods are those other institutions using to identify students in need of math remediation, and should we adopt some of those methods?
* The department received commendations on the use of contextualization, and deservedly so. The department is encouraging to further utilize and expand contextualization – could it be used in online courses? Could contextualized problems be developed that involve some of Sinclair’s highest enrollment courses, or perhaps Career Communities?
* The department is encouraged to strengthen relationships with ABLE. With the aforementioned financial aid changes, there is the potential for more students to be routed to ABLE services. The department is also encouraged to gather data about the performance of former ABLE students in subsequent DEV Math courses.
* While not discussed in the meeting with the Review Team, for several terms the department experimented with 5 week attendance reporting, where non-attending and low-performing students who had no hope of passing A-term courses were removed from the B-term courses they were scheduled to take. This was not done in AY 2015-16 – the department should explore whether this practice was effective, and whether it should be resumed in future terms.

**Overall Assessment of Department’s Progress and Goals**:

This is a remarkable department, one that is willing to take bold steps and to enact major changes to help more of its students succeed. It is evident that the success of students is the absolute first priority of this department, in that many of the bold steps and major changes that have been implemented reduced FTE enrollment in DMA courses *by design*. The department has intentionally implemented strategies that it knew would reduce FTE enrollment, because it knew in so doing it could help more of its students reach their educational goals more quickly. The department’s commitment to students is clear, and Sinclair is extremely fortunate to have the leadership and faculty we have in this department.

It is also a department that knows the value of data – the bold steps and major changes mentioned above have been followed up by data collection in an attempt to ascertain their impact. This department appears to work with RAR frequently, and uses the data it gathers to drive decision making.

While substantial changes in structure, leadership, and curriculum have all occurred in the department in recent years, this is a department that not only weathers change well, but appears to thrive in the midst of change. These years that have seen some of the greatest changes have also seen some of the most substantial improvements in student success in DMA courses.

In summary, the Review Team was very, very impressed with the department and its strong commitment to student success. There are a number of innovative strategies that have been implemented by this department that have increased student success, and students, faculty, and staff at Sinclair should be made more aware of them.

**Institutional or Resource Barriers to the Department’s Ability to accomplish its Goals, if any**:

* What will the long-term impact of DEV 0020 and DEV 0025 ineligibility for direct financial aid be? This isn’t just an issue the department must grapple with, but one the entire institution needs to pay attention to. This has the potential to fundamentally alter the pipeline for underprepared students moving into college-level mathematics. The department needs to monitor this change carefully, but likewise the entire college needs to monitor this change as well, and may need to quickly develop and implement policy changes if deleterious effects from this financial aid change are seen.
* While Accuplacer cutoff scores have a direct impact on determining which students are served by the DMA department, the overall college has a strong interest in ensuring that these cutoffs are appropriate and do not disadvantage students needlessly. While a recommendation was made to the department to monitor how other institutions in the state react to the loss of COMPASS, the institution as a whole needs to gather information on these reactions by other institutions, and determine whether some of the strategies that they develop as a result should also be implemented at Sinclair.
* Academic Advising will need to be aware of the ongoing relationship between the DMA department and ABLE, especially if that relationship changes in ways that have a direct impact on students.
* Space is a concern for many departments at Sinclair – how can the needs of this department and all others at Sinclair be addressed by the backfill resulting from the new Health Sciences strategy?