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LEARNING LOG

Developing a New Co-Requisite Model for Dev. Math

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DETAILS

MAKING IT WORK, UNDERSTANDING WHAT WORKS, AND SHARING WHAT WORKS

TITLE

Developing a New Co-Requisite Model for Dev. Math

SOLUTION

Developmental Education Reform and Supports for Learning

CAPACITIES

Policy;Leadership & Culture

Owner

Brian Loft (/education/s/profile/005360000046lscAAA)

Record Type

Monthly-Current 2017

INSTITUTION

Sam Houston State University

REFLECTION

SITE INITIATIVE

In response to a new mandate from the TX State Legislature, we are creating a new co-requisite model to be used in developmental mathematics.

PROGRESS TOWARD STUDENT SUCCESS

The Texas legislature recently passed a law requiring a certain proportion of non-college-ready students be allowed to enroll in a credit-bearing course concurrent with a corresponding co-requisite developmental course. Research has shown that co-req models have seen considerable success compared to the traditional one semester dev. math course followed by another semester of college-level mathematics.

We developed three new courses to be paired with credit-bearing core math courses:
- N014 paired with MATH 1314 (College Algebra)
- N024 paired with MATH 1324 (Business Math)
- N032 paired with MATH 1332 (Math for Liberal Arts)

These courses will be taught in a modified emporium style for those students just outside the threshold for being college-ready for mathematics (as determined by Texas' mandated TSI Assessment). That is, this is for the "bubble students".....

N032 will be held in a traditional classroom, 20 hours per week (4.5 hours M-Th afternoons, 2 hours on Friday) with three or four undergraduate or graduate teaching assisants. Because of the structure of MATH 1332 (or lack thereof.... instructors usually choose three or four various topics of mathematics to cover, from financial math to voting methods to graph thoery) it is difficult to design this co-req component as "just-in-time" model. Instead, it will be focused on reinforcing what was presented in class, supplementing topics with developmental content as needed. For example, if one section is covering financial math, TAs will be prepared to remind students from that section about exponential functions and logarithms.

N014 and N024 will be held in a computer lab classroom, 20 hours per week (4.5 hours M-Th afternoons, 2 hours on Friday) with three or four undergraduate or graduate teaching assisants. Because of the similarity in content in these MATH 13214 and MATH 1324, the content of the co-req components will be almost the same. This course will be designed very similar to the "just-in-time" model, with activities developed to prepare students for that week's (or next week's) material in the corresponding credit-bearing course. We are currently deciding on whether to use a computer-aided platform (such as ALEKS) or design our own paper-based curriculum materials.

Students will be requried to
- register for any section of MATH 1332, 1314, or 1324 that fits their schedule and degree plan
- attend at least 2 (or 3?) hours of instruction in N032, N014, or N032 per week
- vist the office hours of the instructor of the credit-bearing course at least once per week
- complete a weekly self-assessment (maybe... still debating this one)
- sign a contract on the first day of teh semester agreeing to the requirements

IMPACT

We will have this model ready for Fall 2017, and anticipate enrollment of up to 200 students, or roughly 20% of our current dev math population. State mandates include having 25% of our dev math students in a co-req model by Fall 2018, 50% by Fall 2019 and 75% in Fall 2020. We are therefore well ahead most of the rest of the institutions in the state.

We hope to see passing rates of at least 75% (the percentage of non-college-ready students enrolled in the co-req course who receive an A, B, or C in the credit-bearing course). Other schools have reported success rates well over 80%.

INTERNAL/EXTERNAL RESOURCES

We are using internal funds during summer 2017 to develop the co-req models ($15,000 for 3 veteran instructors to develop course materials and design the co-req components). Once the Fall semester arrives, money for undergradaute TAs will be needed (roughly $25,000). This will either be obtained internally or from the Frontier Set budget.

NEXT CRITICAL STEPS

Develop the curriculum for the co-req components. Course design is essentially complete. We need to coordinate with course coordinators of each of the three math courses to ensure the co-req content is aligned with the credit-bearing course content.

Develop a training program for teaching assistants. This will be critical in ensuring the afternoon N014,N032 and N024 classrooms/labs don't just turn into an empty, ineffectual tutoring lab.

Write a draft of a "contract" to be signed by all student participants, making sure all students understand what is expected from them.

OPPORTUNITIES/CHALLENGES

Communication between co-req point of contact and instructors of credit-bearing courses is essential. This has always been a challenge on our campus (communication between math faculty and dev. math instructors), but we are hopeful that this new course model and the Frontier Set backdrop serves as opportunities for developing new lines of communication.

QUESTIONS/REQUESTS

STATUS

Final

Completion Date

5/30/2017

(/education/s/profile/005360000046lscAAA)

Brian Loft (/education/s/profile/005360000046lscAAA) (Sam Houston State University) updated this record.

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STATUS

Draft to Final