

Strategies for Student Success in Developmental Education

Ben Phillips

University of Nebraska-Lincoln

### Abstract

As developmental education continues to grow in community colleges across the nation, a related concern which is also growing is the manner in which students are placed into developmental education. The methods used for placement are not consistent across the field. Typically, institutions use standardized tests to measure students' proficiency in subject matter and then place students based on the test results. Students are then left to sink or swim in the developmental courses. However, a review of the literature reveals multiple methods of increasing student success in developmental education. This paper will review some of those methods in context of providing recommendations for administrators. Additionally, a counter analysis to the results and recommendations will be provided.

Keywords: developmental education, placement, student success.

### Strategies for Student Success in Developmental Education

Developmental education (DE) is a major function of community colleges. Weissman, Bulakowski, and Jumisko (1997) observed developmental education (sometimes called remedial education) was present at Harvard in the 1600s and its purpose is still virtually the same – to help underprepared students successfully pursue their academic goals. In 2002, a study revealed 55% of community colleges saw an increase in developmental education enrollment (Hodges & Kenned, 2004). By 2016, almost 60% of college students were referred to developmental education (Ngo & Melguizo, 2016). The cost of developmental education in the US is currently estimated at almost \$7 billion annually (Scott-Clayton, Crosta, & Belfield, 2014). As the literature reveals, the investment in developmental education is significant and will only grow in the future.

#### **The Problem Facing Development Education**

A major challenge with developmental education are the low student completion rates. According to Jaggars, Hodara, Cho, and Xu, (2015) only 20% of developmental math students and 37% of developmental English students completed their development courses and passed a corresponding college-level course within three years. Additionally, students in developmental education are less likely to graduate or successfully transfer to a bachelor degree granting institution (Bailey, 2009). Based on the sheer number of students referred to developmental education and the low number of students who complete developmental education, it is clear developmental education needs to be reconsidered.

The purpose of this paper is to provide practitioners with strategies to create a holistic implementation at their institutions to increase student success and retention in developmental education.

### **Strategies and Interventions**

To increase student success in developmental education, institutions have implemented programs and interventions. While there are many different interventions and programs which accomplish increased student success, the following section highlights three: mentoring, accelerated programs, and placement considerations.

#### **Mentoring Programs**

Mentoring programs have long shown benefits for at-risk college students and this holds true for developmental education. These programs, especially peer mentoring, are used as an intervention and have shown positive results (Crisp, 2010; Khazanov, 2011; Pagan, & Edwards-Wilson, 2003). Khazannov (2011) examined a mentoring program and found signs of success in regard to student completion and performance. At-risk students who received mentoring were both more likely to be retained for the class and receive a passing grade. Additionally, Pagan and Edwards-Wilson (2003) found mentored at-risk students had a 0.31 higher GPA than without mentoring. The findings from the study Crisp (2010) conducted also confirmed students are retained at higher rates and perform better academically when in a mentoring program.

#### **Accelerated Programs**

Another method for increasing student completion in developmental education is to accelerate the program itself. Accelerating developmental education aims to reduce the amount of time a student spends in development education. This allows the student to enroll in degree courses sooner thus increasing persistence. There are multiple ways to accomplish accelerated development education programs.

One example is the Math Pass computer program (Brinkerhoff & Sorensen, 2015). Math Pass allows a student to work on a somewhat self-directed pace in computer labs or at home.

Students can advance through the individual work at a pace of their choosing. Tests are proctored in the computer lab but the students can schedule the proctored tests whenever is convenient for them.

One institution has used a co-enrollment method (Venezia & Hughes, 2013) where a student is enrolled in English 101 (the regular course) and co-enrolled in English 052 (the development course) as a supportive add on. This method allows students to receive the benefits of developmental education while at the same time earning degree-fulfilling credit. A review of the program found positive results as students completed the English courses at a higher level and had higher levels of persistence than students (Venezia & Hughes, 2013)

A study conducted by Hodara and Jagers (2014) found positive outcomes for students who begin developmental education in accelerated sequence. Those who started in an accelerated sequence for writing “were 9.7 percentage points more like to enroll in college English” and were 6 percentage points more like to complete an English course (Hodara & Jagers, 2014, p. 265).

### **Considerations to Student Placement**

Assessment and placement is the process of getting students placed in the courses which most suit their educational need. When students are placed inaccurately, the result is termed a placement error. Placement errors can be an under or over placement. Underplacement is when a student is placed in a course which is below their proficiency level while an overplacement is when a student is placed in a class which the student is not equipped for (Jagers, Hodara, Cho, & Xu, 2015). Both types of errors can result in the student failing to complete the developmental curriculum, and thus dropping out from the institution. Underplaced students are more likely to drop out, likely “because they believe they are wasting time and money in unnecessary

coursework” (Jaggars, Hodara, Cho, & Xu, 2015, para. 5).

### **Placement Tests**

Placement tests are used by almost all community colleges to determine who will be placed in developmental education (Scott-Clayton, 2012). It is important for college administrators to understand what the tests are measuring and how they should be implemented. As Morante (2012) pointed out, the tests measure achievement and are not designed for predicting academic performance in a college course.

Students’ eligibility for regular college course enrollment depends on scoring at or above the cut score of the placement test. While these cut scores are statistically determined, there are still lingering questions (Scott-Clayton, 2012). For example, the greater the length of time between a student’s last math course in high school and the time of taking the placement test effects a student’s self-efficacy which can in turn effect test performance (Kowski, 2013).

Finally, placement tests are created and validated on a national scale. The tests are unable to account for variances in developmental education curriculum. In other words, a nationally accepted cut score may result in placement errors as a student’s ability is higher than the developmental course.

### **High School Performance**

High school performance and credits in mathematics has long been accepted as a useful tool to predict college performance (Kowski, 2013). When conducting a study on the topic, Kowski (2013) found for every one-point increase in GPA a student was 2.7 times more likely to test out of elementary algebra. While the effect may be different in terms of GPA effect on test placement for other community college systems, the likelihood of a similar finding is possible.

Additionally, Kowski (2013) found the amount of credits in an academic area is a

predictor of future achievement (Kowski, 2013). Thus, when institutions are reviewing high school transcripts in context of placement, consideration should be given to the amount of attempted hours by a student.

### **Regular Assessment and Recalibrating**

It is recommended individual institutions conduct regular assessment regarding the relationships between cut scores and student success. As mentioned previously in this paper, the choice of cut score is important. Thus, institutions should periodically consider the accuracy of the cut score for their institution.

An analysis should be conducted to examine the cut score to ensure it is accurate. By tracking high school credits, placement score, and academic performance an institution can more accurately predict a student's academic needs. Examining the statistical significance of the relationship between the data points can provide meaning and context for the test cut score. Additionally, it provides the institution flexibility as the local high schools' curriculum and teaching methods change thus creating change in students' academic achievement.

### **Creating a Multi-Method Implementation**

The previous sections highlighted several methods for increasing student success in developmental education. While each one by itself fosters a higher level of success, it is the recommendation of this paper to implement multiple, if not all, of the interventions discussed. While there is some overlap, the various interventions address different aspects to the challenges students face. Thus, a holistic approach would include multiple programs and interventions.

### **Counter Analysis**

While the recommendations for implementing a multi-method approach to developmental education is an idea, it may not be realistic. In an environment of dwindling resources, the increased requirements of staff time in placement review may necessitate more staff hours than

are available. Additionally, staff oversight of mentoring programs can also drain available staff hours. Administrators might find it difficult to justify the additional programming and investment in light of the nationally accepted placement tests as a primary (and single) method of developmental educational placement.

### **Conclusion**

The large number of students who are enrolled in developmental education courses and yet do not complete the developmental sequence or graduate is concerning. Community College administrators should reconsider methods to increase student success in developmental education.

This paper reviewed multiple programs institutions can use in tandem to increase student success in developmental education: mentoring, accelerated programs, high school transcripts, and placement tests. By implementing multiple programs, institutions can address the specific challenges which students face in developmental education.

While this paper is by no means provides an exhaustive examination of the topic of developmental education or even the interventions discussed, it does provide a starting point for administrators when considering ways to increase success at their institutions.

### References

- Bailey, T. (2009). Challenge and opportunity: Rethinking the role and function of developmental education in community college. *New Directions for Community Colleges, Spring*(145), 11-30.
- Brinkerhoff, R. & Sorensen, I. (2015). Outcome assessment for an accelerated developmental mathematics program in a self-paced review environment. *Mathematics and Computer Education, 49*(2), 110-115.
- Crisp, G. (2010). The impact of mentoring on the success of community college students. *The Review of Higher Education, 34*(1), 39-60.
- Hodges, D. Z. & Kennedy, N. H. (2004). Editor's Choice: Post-testing in developmental education: A success story. *Community College Review, 32*(3), 35-42.
- Hodara, M., & Jaggars, S. S. (2014). An examination of the impact of accelerating community college students' progression through developmental education. *The Journal of Higher Education, 85*(2), 246-276.
- Jaggars, S. S., Hodara, M., Cho, S., & Xu, D. (2015). Three Accelerated Developmental Education Programs: Features, Student Outcomes, and Implications. *Community College Review, 43*(1), 3-26.
- Khazanov, L. (2011). Mentoring at-risk students in a remedial mathematics course. *Mathematics and Computer Education, 45*(2), 106-118.
- Kowski, L. (2013). Does high school performance predict college math Placement? *Community College Journal of Research and Practice, 37*(7), 514-527.
- Levin, H. & Calcagno, J. (2008). Remediation in the community college. *Community College Review, 35*(3), 181-207.

- Melguizo, T., Kosiewicz, H., Prather, G., & Bos, J. (2014). How are community college students assessed and placed in developmental math?: Grounding our understanding in reality. *The Journal of Higher Education*, 85(5), 691-722.
- Morante, E. (2012). Editorial: What do placement tests measure? *Journal of Developmental Education*, 53(3), 28.
- Ngo, F. & Meguizo, T. (2016). How can placement policy improve math remediation outcomes? Evidence from experimentation in community colleges. *Educational Evaluation and Policy Analysis*, 38(1), 171-196.
- Pagan, R., & Edwards-Wilson, R. (2003). A mentoring program for remedial students. *Journal of College Student Retention*, 4(3), 207-226.
- Scott-Clayton, J. (2012). Do High-Stakes placement exams predict college success? CCRC Working Paper No. 41. *Community College Research Center, Columbia University*.
- Scott-Clayton, J., Crosta, P., & Belfield, C. (2014). Improving the targeting of treatment: Evidence from college remediation. *Educational Evaluation and Policy Analysis*, 36(3), 371-393.
- Venezia, A. & Hughes, K. (2013). Acceleration strategies in the new developmental education landscape. *New Directions for Community Colleges*, 2013(164), 37-45.
- Weissman, J., Bulakowski, C., & Jumisko, M. (1997). Using Research to Evaluate Developmental Education Programs and Policies. *New Directions for Community College*, 100(Winter), 73-80.