The Role and Impact of Supplemental Instruction in Accelerated Developmental Math Courses

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Abstract

In conjunction with semester-long developmental math courses, the University of Houston-Downtown (UHD) offers accelerated co-requisite sequences of Beginning Algebra (MATH 0300) and Intermediate Algebra (MATH 1300) which are paired with either College Algebra or Contemporary Math (previously known as Math for Liberal Arts). This allows for students to complete their developmental education (DE) courses and college-level courses in one semester.

Introduction

- Four 1-hour SI sessions outside of class
- Students develop rapport with SI

- 8 Week course
- Two courses completed in a semester

- 16-Week course
- One course completed in a semester

Accelerated w/ SI Support

Accelerated w/o SI Support

Traditional w/o SI Support

1st 8 Weeks

2nd 8 Weeks

Beginning Algebra

Intermediate Algebra

Contemporary Math

College Algebra

Data

Beginning Algebra A/B/C Rate

Fall 2015: N=16, N=24; Spring 2016: N=11, N=8; Fall 2016: N=17, N=41; Spring 2017: N=3, N=15; Spring 2018: N=1, N=11; Total: N=46, N=99
Chi-Square Value: $\chi^2 = 6.958$ ($p = 0.0083$)

Intermediate Algebra A/B/C Rate

Fall 2015: N=10, N=19; Spring 2016: N=10, N=20; Fall 2016: N=12, N=34; Spring 2017: N=11, N=28; Spring 2018: N=9, N=16; Total: N=50, N=81
Chi-Square Value: $\chi^2 = 5.9388$ ($p = 0.014$)

Limitations

Teaching Methods

Teaching methods or style may affect student performance

Self-Selection

Highly motivated students may self-select into SI sessions

Population Sizes

Small population sizes can affect statistical power

Future Directions

- Faculty Instruction
- Best practices

Course Design

- Accelerated model
- Influence from SI support

Long-Term Effects of SI

Collect Data

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References