Lack of student readiness for college-level coursework has been a major concern across the United States, especially in mathematics. Northeastern Illinois University (NEIU) is among the many colleges that have taken the initiative to support their students by offering developmental courses. These developmental courses are costly for students in terms of time and tuition. Students do not receive credit toward graduation, yet pay full tuition for these courses. Developmental courses have been shown to have high failure rates, which prevent students from enrolling in their major courses. Although developmental education aims to increase the number of graduating students, it can sometimes be a barrier to students from completing college. To address the needs of its students, NEIU hosts summer bridge programs. These programs begin the summer before a students' first semester of college. One of the main objectives of the summer bridge programs at NEIU is to give students the skills they need in math, reading and writing, so they are able to begin their fall semester at or near college level.

Students who place into developmental coursework are eligible to participate in one of two NEIU summer bridge programs: EMERGE or the Summer Transition Program (STP). These summer bridge programs offer first-year students English and math enrichment. Both programs are tuition-free and include supplies and lunch. The EMERGE program focuses intensely on building students' foundational knowledge of English and mathematics in two consecutive three-week sessions. STP also offers students English and math enrichment over six weeks. In addition, STP offers a discipline-specific introductory level, three-credit hour course, while also boosting their confidence to succeed in college through social activities.
**Methodology**

The sample included 652 students who began NEIU as first-time, full-time freshmen: 80 STP participants, 80 EMERGE participants, 341 traditional math development students (non-participants of either summer program), and 151 college-ready students (non-participants of either summer program). The study analyzed the impact of NEIU summer bridge programs on five student success outcomes: fall-to-fall retention, math course success, overall GPA, math GPA, and earned credit hours. The full thesis also explored the interaction of demographic characteristics and the bridge program across the five success outcomes. This brief report focuses on overall differences across bridge programs.

**Fall-to-Fall Retention**

The lowest retention rate was among the math development students, with STP and EMERGE summer program participants' retention being significantly higher. Furthermore, STP participants had the highest retention rate, higher than that of college-ready students.

<table>
<thead>
<tr>
<th></th>
<th>Dev'l Math</th>
<th>EMERGE</th>
<th>STP</th>
<th>College Ready</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retention Rate</td>
<td>46.0%</td>
<td>67.1%</td>
<td>73.5%</td>
<td>84.1%</td>
</tr>
</tbody>
</table>

**Math Course Success**

Less than half of the math development students successfully passed their initial fall math courses, whereas STP and EMERGE summer program participants had significantly higher passing rates for their math courses.

<table>
<thead>
<tr>
<th></th>
<th>Dev'l Math</th>
<th>EMERGE</th>
<th>STP</th>
<th>College Ready</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passing Rate</td>
<td>12.9%</td>
<td>16.3%</td>
<td>17.5%</td>
<td>20.8%</td>
</tr>
</tbody>
</table>

**First-Year Hours Earned**

Math development students earned the lowest number of credit hours. On average they earned one semester’s worth of credit hours. STP and EMERGE summer program participants earned more credit hours, approximately three hours more on average than math development students.
Overall Grade Point Average
Math development students earned the lowest first-year cumulative GPA. STP and EMERGE students earned significantly higher first-year cumulative GPAs than math development students, equivalent to college-ready students.

Math Grade Point Average
Math development students earned the lowest first-year math GPAs. STP and EMERGE summer program participants earned much higher first-year math GPAs, with STP students’ earning math GPAs equivalent to college-ready students.

These findings show that six weeks of summer bridge can make a significant difference in a student’s academic success, illustrated through higher retention rates, passing rates, cumulative GPA, math GPA, and more first-year overall earned credit hours than traditional math development students. The results found in this study support the notion that summer bridge programs have a tremendous potential to help developmental students achieve college-level standards. Scaling up these programs is an investment in the success of NEIU students.

End note: This analysis was conducted in fulfillment of Ms. Hussain’s Honors Program requirements. The full analysis can be found in her thesis, “First-Year Students in Summer Bridge: Improving Academic and Mathematical Success,” at the NEIU Honors Digital Commons: https://meiuc.neiu.edu/uhp-projects/4. Questions, comments or concerns can be directed to Sonia Hussain at soniahussain2022@u.northwestern.edu or Dr. Frank Gaytan at f-gaytan@neiu.edu.

A Note from Institutional Research
This analysis compares all students in each of the four programs to highlight the effectiveness of the programs. Certainly the effectiveness might vary across student demographics. Ms. Hussain conducted extensive analysis of subgroups of students, namely by race/ethnicity, gender, Pell eligibility, and first-generation status. While the full analysis across all groups is beyond the scope of this brief report, below are notable highlights:

- African American students who participated in STP were more likely to be retained and pass their first-year math course than African American students in other programs.
- Students from other race/ethnic groups benefited equally from the bridge programs and developmental math.
- Students in the bridge programs and developmental math benefited equally regardless of gender, Pell eligibility and first-generation status.