Remediation Data in Illinois’ Higher Education System

Senate Joint Resolution 41 Taskforce,
September 9, 2019
Harold Washington College, Chicago, IL

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Remediation Data in Illinois’ Higher Education System

- ICCB and IBHE Data Systems Overview

- Remediation in the Illinois Community College System
  - Defining Remediation
  - Context Data
  - Progress & Outcome Measures
  - National Comparison

- Upcoming Research Project: ICCB-College Board SAT Benchmark Project

- Transition of IL HS Graduates into IL Higher Education (ISBE Illinois Report Card)

- Remediation in Illinois 4-year Illinois Colleges and Universities

- Questions
Illinois Community College Board Remedial Data Collection

ICCB Centralized Data System:

- ICCB collects credit student-level enrollment, demographic, curriculum, course, characteristics, and credential information, as well as staff and financial data.
- ICCB collects non-credit student-level demographic, course, characteristics, and completion information.
- ICCB is the State of Illinois Administrator for Adult Education and collects adult education student-level enrollment, demographic, course/curriculum, characteristics, credential, staff and financial information via the web-based Data and Information System – Illinois (DAIS-I).
- ICCB collects High School Diploma Equivalent student demographic, attainment, and testing site information.

ICCB Survey Data Collection
Illinois Community College Board
Remedial Data Collection

• For each student, via the annual curriculum-based collection, ICCB collects remedial hours enrolled and earned by broad area of remedial instruction:

  – **Mathematics** - Courses designed to develop math skills. Courses may be related to basic arithmetic, math applications, elementary algebra, pre-algebra, intermediate algebra, geometry, and mathematical literacy.

  – **Writing/Communications (English)** - Courses designed to develop writing and speaking skills. Courses may be related to fundamentals of writing, communication skills development, and language skills development.

  – **Reading** - Courses designed to develop college reading skills. Courses may be related to reading fundamentals, reading comprehension, and literacy.

• For each student, via the annual course-based collection, ICCB collects college unique remedial course prefix/number/section, hours attempted and earned, and course grade awarded.
Illinois Board of Higher Education Data System

- **IBHE’s Fall Enrollment I** - preliminary fall enrollments and unduplicated counts of students enrolled in remediation.
- **IBHE’s Fall Enrollment II (partially retired)** - includes final fall enrollment disaggregated by academic program, degree-level, residency, race/ethnicity, transfer status, and gender.
- **IHEIS** (IBHE’s Component of the Illinois Longitudinal Data System)
  - All semester-specific enrollment records at the student level from all degree-granting entities specified in the ILDS Act
  - Annual graduation collection at the student level from all degree-granting entities specified in the ILDS act.
  - New course and teacher assignment system specific to remediation and dual credit
Illinois Board of Higher Education
Remedial Data Collection

IHEIS Enrollments

• Semester by semester enrollment information that includes whether the given student enrolled in remedial math or English.

• Examined longitudinally and linked to demographics and information on academic qualifications

Course Assignments (recently implemented)

• For each student in a remedial or co-requisite course we collect the course prefix, course number, credits attempted, credits earned, grade, and information on the teacher of record

• Next year, we will collect parallel information on performance in gateway courses.
Illinois Community Colleges Total Students Served
Fiscal Years 2005–2018

Source: ICCB Centralized Data System
Illinois Community College Remedial Education Proportion to Overall Credit Students, Fiscal Years 2005–2018

Source: ICCB Centralized Data System
Illinois Community College Remedial Education Proportion to Overall Credit Students By Community College Fiscal Year 2018

Source: ICCB Centralized Data System
Illinois Community College Students Enrolled in Remedial Education by Instruction Type

<table>
<thead>
<tr>
<th></th>
<th>FY10</th>
<th>FY14</th>
<th>FY18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer</td>
<td>59.1%</td>
<td>60.1%</td>
<td>68.8%</td>
</tr>
<tr>
<td>CTE</td>
<td>27.6%</td>
<td>25.5%</td>
<td>22.1%</td>
</tr>
<tr>
<td>Gen Assoc</td>
<td>13.3%</td>
<td>14.4%</td>
<td>9.1%</td>
</tr>
</tbody>
</table>

Source: ICCB Centralized Data System
Illinois Community College Students Enrolled in Remedial Education by Instruction Type

Source: ICCB Centralized Data System
Illinois Community College Remedial Education Students By Age Range

Source: ICCB Centralized Data System
Illinois Community College Remedial Education Students By Race/Ethnicity

FY 2014
FY 2018

Source: ICCB Centralized Data System
Illinois Community College Remedial Education Students By Gender

FY 14

FY 10

FY 18

Source: ICCB Centralized Data System
## Illinois Community College Students Enrollment by Remedial Coursework, Fiscal Years 2010, 2014, and 2018

<table>
<thead>
<tr>
<th></th>
<th>FY2010</th>
<th>FY2014</th>
<th>FY 2018</th>
<th>% Change 5-Year</th>
<th>% Change 10-Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math Only</td>
<td>65,548</td>
<td>58,347</td>
<td>37,673</td>
<td>-35.4%</td>
<td>-42.5%</td>
</tr>
<tr>
<td>English Only</td>
<td>9,231</td>
<td>7,994</td>
<td>7,197</td>
<td>-10.0%</td>
<td>-22.0%</td>
</tr>
<tr>
<td>Reading Only</td>
<td>6,125</td>
<td>4,402</td>
<td>2,372</td>
<td>-46.1%</td>
<td>-61.3%</td>
</tr>
<tr>
<td>Math &amp; English</td>
<td>12,942</td>
<td>9,588</td>
<td>6,320</td>
<td>-34.1%</td>
<td>-51.2%</td>
</tr>
<tr>
<td>Math &amp; Reading</td>
<td>6,211</td>
<td>4,607</td>
<td>2,092</td>
<td>-54.6%</td>
<td>-66.3%</td>
</tr>
<tr>
<td>English &amp; Reading</td>
<td>5,279</td>
<td>5,713</td>
<td>3,706</td>
<td>-35.1%</td>
<td>-29.8%</td>
</tr>
<tr>
<td>Math, English &amp; Reading</td>
<td>10,506</td>
<td>9,896</td>
<td>4,793</td>
<td>-51.6%</td>
<td>-54.4%</td>
</tr>
<tr>
<td>Total</td>
<td>115,842</td>
<td>100,547</td>
<td>64,153</td>
<td>-36.2%</td>
<td>-44.6%</td>
</tr>
</tbody>
</table>

Source: ICCB Centralized Data System
Illinois Community College Students Enrolled in Remedial Education Courses Fiscal Years 2006, 2010, 2014, and 2018

- **FY 2006**
  - Math Only: 59.0%
  - Math & English: 8.7%
  - Math & Reading: 5.1%
  - Math, English & Reading: 9.4%
  - English &/Or Reading: 9.1%
  - Total: 17.8%

- **FY 2010**
  - Math Only: 56.6%
  - Math & English: 9.1%
  - Math & Reading: 5.4%
  - Math, English & Reading: 11.2%
  - English &/Or Reading: 8.7%
  - Total: 17.8%

- **FY 2014**
  - Math Only: 58.0%
  - Math & English: 9.8%
  - Math & Reading: 4.6%
  - Math, English & Reading: 9.5%
  - English &/Or Reading: 5.1%
  - Total: 18.0%

- **FY 2018**
  - Math Only: 58.7%
  - Math & English: 7.5%
  - Math & Reading: 3.3%
  - Math, English & Reading: 9.9%
  - English &/Or Reading: 5.4%
  - Total: 20.7%

Of Remedial students, those that took at least one Remedial Math Course.

Source: ICCB Centralized Data System
Illinois Community College
Remedial Education Enrollment Takeaways

- **Remedial education decrease in enrollment has occurred in all areas** and outpaced enrollment declines in credit, adult education, and noncredit programs.

- Students in Bacc/Transfer Curriculums currently accounts for nearly **70 percent** of remedial education enrollments.

- The **majority (86 percent)** of community colleges are within 8 percent of the statewide rate of students enrolling in remedial education courses.

- Approximately **80 percent** of students in remedial education take at least one Math remedial course and that has remained constant.

- **Latino and African-American remedial students are overrepresented** in remedial education courses compared to overall courses in community colleges.
Illinois Community College Student Course Completion in Remedial Education

Remedial Education Course Completion Rate Compared to Overall Rate, Fiscal Years 2005-2018

Source: ICCB Centralized Data System
Illinois Community College Rate of Remedial Education

Full-time, First-time Degree or Certificate-Seeking Students Enrolling in One or More Remedial Courses in Entering Fall Term

Source: ICCB Centralized Data System
Illinois Community College Student Graduation Rates

Full-time, First-time Degree or Certificate-Seeking Students Completing within 150% of Normal Time

Source: ICCB Centralized Data System
Illinois Community College Student Advancement Rates

Full-time, First-time Degree or Certificate-Seeking Students Completing, Still Enrolled, or Transferring within 150% of Normal Time

<table>
<thead>
<tr>
<th>Cohort</th>
<th>Remedial</th>
<th>No Remedial</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>54.90%</td>
<td>62.90%</td>
<td>70.10%</td>
</tr>
<tr>
<td>2015</td>
<td>53.80%</td>
<td>61.80%</td>
<td>70.10%</td>
</tr>
<tr>
<td>2014</td>
<td>54.00%</td>
<td>61.60%</td>
<td>70.00%</td>
</tr>
</tbody>
</table>

Source: ICCB Centralized Data System
Illinois Community College Student Credit Accumulation in First Year

Fall First-Time Degree or Certificate-Seeking Students Completing 24 Credit Hours Within First Academic Year

No Remedial vs Remedial

Source: ICCB Centralized Data System
Percentage of First-Time, Credential-Seeking Freshmen Who Enroll in Math Remedial Education in First year

Source: ICCB Centralized Data System & Complete College America
Percentage of First-Time, Credential-Seeking Freshmen Who Enroll in English Remedial Education in First year

Source: ICCB Centralized Data System & Complete College America
Illinois Community College
Student Success Takeaways

• Students enrolled in remedial courses complete 13 percent less of their courses compared to non-remedial courses.

• 5 out of 10 incoming students enroll in remedial education course(s).

• Incoming students initially enrolling in remedial education course(s) have substantially lower outcomes related to Graduation Rate, Advancement Rate, and Credit Accumulation.

• Nationally (for other state data that are available) Illinois compares favorably in relation to rate of incoming students enrolling in a remedial course(s).
ICCB and College Board SAT College Readiness Research Project

• ICCB in the process of executing a data agreement with The College Board.
  – Illinois began administering the College Board SAT to all 11th-grade public school students in the 2016-17 school year.
  – Linking College Board SAT Evidence-Based Reading and Writing and Math section scores from individual records with ICCB student records will allow ICCB and the Illinois Community College System to analyze college readiness related to SAT benchmarks.
## Transition of IL HS Graduates into IL Higher Education

<table>
<thead>
<tr>
<th>IL HS Graduating Class</th>
<th>Graduates (N)</th>
<th>Attending Illinois Community College (N)</th>
<th>Attending Illinois Community College (%)</th>
<th>Enrolled in Remedial Courses (N)</th>
<th>Enrolled in Remedial Courses (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>138,520</td>
<td>39,922</td>
<td>28.8</td>
<td>19,427</td>
<td>48.7</td>
</tr>
<tr>
<td>2014</td>
<td>132,661</td>
<td>42,256</td>
<td>31.9</td>
<td>20,894</td>
<td>49.4</td>
</tr>
<tr>
<td>2015</td>
<td>128,527</td>
<td>41,464</td>
<td>32.3</td>
<td>19,388</td>
<td>46.8</td>
</tr>
<tr>
<td>2016</td>
<td>137,548</td>
<td>42,703</td>
<td>31.3</td>
<td>19,506</td>
<td>45.7</td>
</tr>
</tbody>
</table>

Source: ISBE Illinois Report Card (Via ISBE and ICCB Data Match)

Source: IBHE Fall Enrollment Survey I

Source: IBHE Fall Enrollment Survey I and IPEDS 12-Month Enrollment
What Happened at Southern Illinois University Carbondale?

• SIUC Mathematics employed a two-pronged approach
  1) SIUC improved and expanded the variety of math courses to meet the needs of students in non-quantitative fields to satisfy university core requirements.
     • State-of-the-art liberal arts mathematics course
     • Data science course
  2) For students in majors requiring a higher level of mathematics, they moved to a co-requisite model and eventually found it no longer had to schedule their non-credit intermediate math course.
Co-requisite Modeling at SIUC

• For college algebra, they introduced a co-remediation class, in which students lacking the requisite math skills were able to master college algebra and the prerequisite material in a single semester.

• SIUC is applying this same method at higher levels as well.
  – Although college algebra and trigonometry are credit bearing courses, sometimes the long sequence to get into Calculus I prevents STEM majors from graduating in four-years
  – SIUC integrated many of the algebra and trigonometry prerequisites with a traditional Calculus I course into a single semester course
Results at SIUC

Pass Rates in College Algebra

<table>
<thead>
<tr>
<th>Method</th>
<th>Pass Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional (Direct Placement)</td>
<td>62%</td>
</tr>
<tr>
<td>Traditional (Intermediate Algebra)</td>
<td>32%</td>
</tr>
<tr>
<td>Co-Remediation</td>
<td>55%</td>
</tr>
</tbody>
</table>

- College-ready students still have an advantage, but for a student lacking the requisite preparation for direct placement in college algebra, co-remediation has an overwhelming advantage.
- The other issue is the conditional aspect of taking the traditional intermediate algebra to college algebra math pathway.
  - Before, getting into college algebra was conditional upon passing intermediate algebra and the pass rate in that course had been around 27%.
  - The conditional probability of passing college algebra for someone taking intermediate algebra was only 8.7%.

Source: Communications with SIUC Representatives
Sample of Undergraduate Students Enrolled in Remedial Coursework in fall of 2018-19

• Inclusive of the seven Illinois public universities: CSU; EIU; ISU; SIUE; UIC; UIS; and WIU

• The information is limited to Language Arts/English and Math remediation
  – If a public university is offering remediation in another subject area, we didn’t collect it
  – Fall only, so it is possible that some students (non-freshmen) took remediation prior or could have taken it subsequently
Remediation in Fall of 2018-19

Remediation Status for all Undergraduates (n=65,854)
- Remediation in either Math or English: 3.2%
- No Remediation: 96.8%

Remediation Status for New Freshmen (n=15,165)
- Remediation in either Math or English: 11.4%
- No Remediation: 88.6%

Source: IBHE’s IHEIS Fall Enrollment Collection
Remediation Status and Class Level

<table>
<thead>
<tr>
<th>Class Level</th>
<th>Remediation Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Degree Seeking</td>
<td>5.6%</td>
</tr>
<tr>
<td>Freshmen</td>
<td>11.4%</td>
</tr>
<tr>
<td>Sophomore</td>
<td>1.3%</td>
</tr>
<tr>
<td>Junior</td>
<td>0.7%</td>
</tr>
<tr>
<td>Senior</td>
<td>0.2%</td>
</tr>
</tbody>
</table>

Class Level Distribution of Students Enrolled in Remedial Education in fall of 2018-19

Source: IBHE’s IHEIS Fall Enrollment Collection
Racial/Ethnic Distribution of All Undergraduates in Fall of 2018-19 by Remediation Status

Source: IBHE’s IHEIS Fall Enrollment Collection
Racial/Ethnic Distribution of First-Year Undergraduate Students by Remediation Status

Source: IBHE’s IHEIS Fall Enrollment Collection
Detailed Remediation Status for Freshmen by Public University in Fall of 2018-19

UIIS 65.9%
WIU 77.9%
UIC 88.3%
SIUE 92.6%
CSU 38.7%
ISU 94.3%
EIU 88.4%

0.0% 20.0% 40.0% 60.0% 80.0% 100.0%

No Remediation Math Only Math and English English Only

Source: IBHE’s IHEIS Fall Enrollment Collection
Gender and Detailed Remediation Status for Freshmen at Illinois Public Universities in Fall of 2018-19

Female
- 89.0% No Remediation
- 7.0% Math Only
- 3.1% English Only

Male
- 88.2% No Remediation
- 7.8% Math Only
- 3.0% English Only

Source: IBHE’s IHEIS Fall Enrollment Collection
Pell Receipt and Detailed Remediation Status for Freshmen at Illinois Public Universities in Fall of 2018-19

- **No Pell**: 92.0% No Remediation, 5.2% Math Only
- **Received Pell**: 84.6% No Remediation, 10.0% Math Only

MAP Receipt and Detailed Remediation Status for Freshmen at Illinois Public Universities in Fall of 2018-19

- **No MAP**: 92.0% No Remediation, 5.2% Math Only
- **Received MAP**: 85.2% No Remediation, 9.8% Math Only

*Source: IBHE’s IHEIS Fall Enrollment Collection*
### Detailed Remediation Status and High School Academic Qualifications

<table>
<thead>
<tr>
<th>Remediation Status</th>
<th>ACT Comp</th>
<th>ACT English</th>
<th>ACT Math</th>
<th>SAT Comp</th>
<th>SAT Math</th>
<th>SAT Critical Reading</th>
<th>High School GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Remediation</td>
<td>22.55</td>
<td>22.48</td>
<td>22.04</td>
<td>1117.27</td>
<td>561.22</td>
<td>566.88</td>
<td>3.33</td>
</tr>
<tr>
<td>Math Only</td>
<td>19.91</td>
<td>19.90</td>
<td>18.67</td>
<td>1009.06</td>
<td>486.67</td>
<td>532.76</td>
<td>3.09</td>
</tr>
<tr>
<td>Math and English</td>
<td>17.75</td>
<td>17.90</td>
<td>17.23</td>
<td>943.79</td>
<td>477.91</td>
<td>471.45</td>
<td>3.15</td>
</tr>
<tr>
<td>English Only</td>
<td>19.54</td>
<td>18.03</td>
<td>19.97</td>
<td>997.03</td>
<td>510.30</td>
<td>489.20</td>
<td>3.16</td>
</tr>
</tbody>
</table>

*Source: IBHE’s IHEIS Fall Enrollment Collection*
## Differences in Academic Qualifications in Freshmen by Remediation Status

<table>
<thead>
<tr>
<th></th>
<th>High School GPA</th>
<th>ACT Composite</th>
</tr>
</thead>
<tbody>
<tr>
<td>EIU</td>
<td>2.92</td>
<td>3.11</td>
</tr>
<tr>
<td>CSU</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISU</td>
<td>3.12</td>
<td>3.29</td>
</tr>
<tr>
<td>SIUE</td>
<td>3.04</td>
<td>3.39</td>
</tr>
<tr>
<td>UIC</td>
<td>3.24</td>
<td>3.30</td>
</tr>
<tr>
<td>WIU</td>
<td>3.02</td>
<td>3.27</td>
</tr>
<tr>
<td>UIS</td>
<td>3.20</td>
<td>3.66</td>
</tr>
</tbody>
</table>

*Source: IBHE’s IHEIS Fall Enrollment Collection*
Performance on ACT English Subject Test for Freshmen by Remediation Status

Source: IBHE’s IHEIS Fall Enrollment Collection
Performance on ACT Math Subject Test for Freshmen by Remediation Status

Source: IBHE’s IHEIS Fall Enrollment Collection
Academic Performance in College among First-Time/Full-Time Students by Detailed Remediation Status

Source: IBHE’s IHEIS Fall Enrollment Collection
Has there been evidence of misplacement into remediation courses?

• National research has established that 18% of students at public universities who took remediation (either math or English) were well academically qualified

• Defined as having two or more of the following:
  – 3.5+ high school GPA
  – 24 or higher on the ACT
  – Calculus as their highest math course in HS

Was there evidence of misplacement with the sample of undergraduates at Illinois Public Universities?

- Using a similar framework, we found only 40 cases of well academically qualified first-year students enrolled in remediation (2.3% of the freshmen taking remedial coursework in fall of 2018-19).

- However, this doesn’t account for potential deficits in particular subject areas. For example, a student could perform well in all subjects but math, and still have a 3.5 or higher GPA and/or a 24 or higher on the ACT.

- With a more math-specific measure, there were only 14 cases of well-academically qualified first-year students being enrolled in remediation in math (1.1%).

- With a more English-specific measure, there were only 9 cases of well-academically qualified first-year students enrolling in English remediation (1.5%).
**Key Takeaways**

- Among the sample, disproportionately more African American and Latinx students took remedial coursework at Illinois public universities.
- There were no discernable gender differences.
- There was a lot of variation in the rates of remediation across the public universities.
- Not all Illinois public universities offer the same remedial coursework.
- There were only a few instances of well- academically qualified students being placed in remedial coursework at Illinois public universities.
- Non-remedial students academically outperform remedial students at college.
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