Creating Co-Curricular and Extracurricular Engagement Pathways for Timely Degree Completion

2023 Assessment Institute
October 31, 2023

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Anne Cooper Moore, Library Dean
The purpose of the study is ...

Understand the role of out-of-the-classroom engagements in 4-year graduation rates, particularly related to Black, Hispanic, and Pell Eligible students ...

In order to ...

... develop a deeper understanding of the factors that contribute to student success ...

So that ...

... libraries, co-curricular and extracurricular units, and universities can structure support systems and services to help these important populations to succeed and graduate.
Project Impetus

- 2022 University of North Carolina System adopted a new performance-weighted funding model to improve the value of higher education.

- The new funding formula rewards or penalizes universities for their overall four-year graduation rate and changes to student debt.

- UNC Charlotte is committed to supporting undergraduate students in timely degree completion with minimal debt, with a particular focus on Black, Hispanic, and Pell Eligible students.

"Under the new plan, the System will focus on increasing the percentage of students who finish in four years, as timely completion helps to limit student debt and lowers the opportunity cost of remaining in school for additional semesters" (UNC System Strategic Plan, 2022).
UNC Charlotte

Urban, Research Institution

Doctoral University, Higher Research Activity

2nd largest undergraduate enrollment in UNC System

29,551 Students
  23,461 undergraduates

80% Acceptance & 83% Persistence Rates

65% FTIC freshmen (4,157)

35% Transfers (2,249)

Fall 2022:
https://ir-analytics.charlotte.edu/fact-book
## Project Partners

<table>
<thead>
<tr>
<th>Co-Curricular Partners</th>
<th>Other Departments &amp; Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Library</td>
<td>Undergraduate Learning Communities</td>
</tr>
<tr>
<td>Career Center</td>
<td>1st Year Writing Program</td>
</tr>
<tr>
<td>UCAE</td>
<td>Center for Teaching &amp; Learning</td>
</tr>
<tr>
<td>Writing Center</td>
<td>Registrar</td>
</tr>
<tr>
<td>Education Abroad</td>
<td>Niner Central</td>
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<td>Undergraduate Research</td>
<td>OneIT Help Desk</td>
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<table>
<thead>
<tr>
<th>Student Affairs</th>
<th>Institutional Research</th>
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<tr>
<td>Greek Life</td>
<td>Demographics</td>
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<tr>
<td>University Recreation Center</td>
<td>Pre-College</td>
</tr>
<tr>
<td>Housing &amp; Residence Life</td>
<td>Success Measures</td>
</tr>
</tbody>
</table>
Longitudinal dataset at the individual student level of all undergraduate students who matriculated into the university from 2012-2013 to the present.

Data include:
1. Yearly student engagements with each co-curricular and extracurricular partner, at the "type of activity" level of specificity.
2. Pre-College data
3. Demographic data
4. Measures of Success (2nd Year Retention, GPA, and Graduation Rates)
Data Included in Current Study

1. Undergraduate students who matriculated in Summer or Fall 2012 - 2018.
2. Did they graduate within 4 years (Spring of 4th academic year)?
3. How much did they engage with co-curricular and extracurricular services during 1st four years?

<table>
<thead>
<tr>
<th>Matriculation Year (Sum/Fall)</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
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<td>2018</td>
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</table>
All of these factors play a role in a student's decision to stay or withdraw.

Spheres of influence at the university are Social Integration & Academic Integration.

Tinto, 1975, 1993
Sequential Design

Step 1: Disaggregated the Data to Enable a Deeper Understanding of Pell, Black, and Hispanic Success & Engagement Patterns

Step 2: Explored Group Differences Related to Measures of Success AND Co-Curricular & Extracurricular Engagement

Step 3: Controlled for Confounding Variables

Step 4: Identified Engagement Pathways for Success for Population Subgroups
To better understand student engagement & success for our populations of interest, we disaggregated the data based on Race and Pell Eligibility…
We learned that our disaggregated groups differed significantly based on measures of success … and … co-curricular and extracurricular engagement patterns.

*A few examples …*
Study subgroups differed significantly with respect to their 4-year graduation rates.
Students who engage with the library have significantly higher 4-year graduation rates … BUT … many students do not engage … or engage very little … with the library … AND … library engagement patterns differ significantly across study subpopulations.

(Average across full dataset: 35 engagements)

Trends are consistent when separated into specific types of library engagements.
Students who engage with the Writing Center have significantly higher 4-year graduation rates …

... Writing Center engagement patterns differ significantly across study subpopulations.

Trends are consistent when separated into specific types of Writing Center engagements.

... many students do not engage … or engage very little … with the Writing Career …

Writing Center Total Engagements x 4 Year Graduation Rates

<table>
<thead>
<tr>
<th>Graduation Rates</th>
<th>Total Writing Center Engagements</th>
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</thead>
<tbody>
<tr>
<td>0%</td>
<td>47%</td>
</tr>
<tr>
<td>25%</td>
<td>57%</td>
</tr>
<tr>
<td>75%</td>
<td>75%</td>
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</table>

Writing Center Total Engagements in 1st 4 Years

<table>
<thead>
<tr>
<th>Total Writing Center Engagements</th>
<th>% of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>80%</td>
</tr>
<tr>
<td>1-2</td>
<td>16%</td>
</tr>
<tr>
<td>3+</td>
<td>44%</td>
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</table>

Writing Center Engagements per Student in 1st 4 Years

<table>
<thead>
<tr>
<th>Engagements</th>
<th>White Pell</th>
<th>White Not Pell</th>
<th>Black Pell</th>
<th>Black Not Pell</th>
<th>Hispanic Pell</th>
<th>Hispanic Not Pell</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.3</td>
<td>0.4</td>
<td>0.6</td>
<td>0.5</td>
<td>0.5</td>
<td>0.4</td>
<td></td>
</tr>
</tbody>
</table>
Graduation rates remain static across different levels of student engagement with the UCAE ...

BUT

... many students do not engage ... or engage very little ... with the UCAE ...

AND

... UCAE engagement patterns differ significantly across study subpopulations.

Trends are consistent when separated into specific types of Writing Center engagements.
Students who participate in Greek Life have significantly higher 4-year graduation rates…

... Greek Life participation differs significantly across study subpopulations.

... many students do not participate in Greek Life …
Students who use the UREC have significantly higher 4-year graduation rates …

… UREC usage patterns differ significantly across study subpopulations.

BUT ... many students do not use ... or have minimal usage of the UREC ...

AND

UREC Visits x 4 Year Graduation Rates

<table>
<thead>
<tr>
<th>Graduation Rates</th>
<th>0</th>
<th>1-9</th>
<th>10-49</th>
<th>50+</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>43%</td>
<td>52%</td>
<td>56%</td>
<td>63%</td>
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</table>

UREC Total Visits in 1st 4 Years

<table>
<thead>
<tr>
<th>% of Students</th>
<th>0</th>
<th>1-9</th>
<th>10-49</th>
<th>50+</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>47%</td>
<td>21%</td>
<td>19%</td>
<td>13%</td>
</tr>
</tbody>
</table>

UREC Visits per Student in 1st 4 Years

<table>
<thead>
<tr>
<th>Total Visits</th>
<th>White Pell</th>
<th>White Not Pell</th>
<th>Black Pell</th>
<th>Black Not Pell</th>
<th>Hispanic Pell</th>
<th>Hispanic Not Pell</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>17</td>
<td>23</td>
<td>19</td>
<td>26</td>
<td>20</td>
<td>22</td>
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</table>
Overall, trends for the other co-curricular and extracurricular study partners included in the analysis were consistent with the examples shared.

<table>
<thead>
<tr>
<th>Co-Curricular Partners</th>
<th>Student Affairs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Library</td>
<td>Student Affairs employment (Resident Assistant, SAFE Mentor, Orientation Counselor, UREC Employee)</td>
</tr>
<tr>
<td>Career Center</td>
<td>Housing &amp; Residence Life</td>
</tr>
<tr>
<td>University Center for Academic Excellence (UCAE)</td>
<td>Greek Life</td>
</tr>
<tr>
<td>Writing Center</td>
<td>UREC Usage</td>
</tr>
</tbody>
</table>
Observations so far …

1. **Graduation rates** differ significantly for subpopulations based on Race and Pell Eligibility.

2. Student engagement with co-curricular and extracurricular services is significantly associated with higher 4-year graduation rates.

3. There are significant differences in engagement patterns across study subgroups.
Controlling for Confounding Variables

… with Propensity Score Matching

Step 3

- Pre-Entry Academic Readiness (ACT/SAT)
- 1st Generation Status (Neither parent w/ 4-year degree)
- Admit Status (FTIC - freshman, Transfer)
- High Impact Practices (Experiential Educ., Education Abroad, Learning Community, Undergrad Research, Fresh. Writing Course)
- College (ART/ARCH, BUSN, CCI, EDUC, ENGR, CLAS, CHHS, UCOL)
## Identifying Engagement Pathways for 4-Year Graduation

<table>
<thead>
<tr>
<th>Library</th>
<th>Career Center</th>
<th>UCAE</th>
<th>Writing Center</th>
<th>Student Affairs</th>
</tr>
</thead>
</table>
|● Book checkouts  
● Authentications  
● Instruction  
● Laptop & Desktop Usage  
● Study Room Reservations |● Advising  
● Career Fairs  
● Classroom Presentations  
● Self-Assessments  
● Workshops |● Classroom Presentations  
● Individual Consultations  
● Excellence Seminars  
● Success Guides  
● Suppl. Instruction / Peer Asst Lrng  
● SOS Peer Mentoring  
● Tutoring  
● Workshops |● Classroom Presentations  
● Individual Consultations |● SA Employment  
○ Resident Assistant  
○ SAFE Mentor  
○ Orientation Counselor  
○ UREC Employee  
● Housing & Residence Life  
○ Learning Programs  
○ Social Programs  
○ Niner Chat  
● Extracurriculars  
○ Greek Life  
○ Sports Clubs  
○ Intramural Teams  
○ UREC Visits |
Engagement Pathways for 4-Year Graduation

Figures represent significant odds ratios ($e^B$)

For each engagement in [specific activity], the odds that a student in this subpopulation will graduate within 4 years increases $x.xx$ times.

For each engagement in library instruction, the odds that a black, Pell-eligible student will graduate within 4 years increases 1.13 times.
Odds ratios are for 1 instance of engagement. Many students engage in some activities hundreds of times during their academic careers. Odds of success increase with each engagement.
Engagement Pathways for 4-Year Graduation

Figures represent significant odds ratios ($e^B$)

**Black, Pell-eligible Students**
- Library Instruction: 1.13
- Career Advising: 1.30
- Career Self-Assessments: 1.46
- Career Class Present: 1.16
- Writing Ctr Class Present: 1.29
- UREC Visits: 1.00
- S. Affairs Employment: 1.72

**Hispanic, Pell-eligible Students**
- Library Instruction: 1.08
- Career Advising: 1.30
- Career Self-Assessments: 1.76
- Wrtg Ctr Class Present: 1.30
- UREC Visits: 1.00
Key Takeaways

- There are specific co-curricular and extracurricular services and activities that significantly increase students' odds for 4-year graduation.

- There may be opportunities to promote and support student engagement in new ways, particularly for students who are less engaged in co-curricular and extracurricular activities.

- Colleges can not only collaborate with campus co-curricular and extracurricular units and departments, but also emphasize with students the importance of engaging in co-curricular and extracurricular activities, particularly the "high impact" activities identified from this study.
Q & A

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Supplemental Materials

- Student Engagement & Success (2012-2013 through 2021-2022)
  Statistical Tables: [https://tinyurl.com/AtkinsDataTables](https://tinyurl.com/AtkinsDataTables)

- Handouts
  - Variables Checklist
  - Delineated Engagement Pathways for 4-Year Graduation


### Variables checklist

#### Dependent Variable:
4 Year Graduation Rate (graduated within 4 years)  
(1=yes, 0=no)

#### Demographic Variables of Interest

**Race**
- Black
- Hispanic
- White

**Pell eligible in any of 1st 4 years**  
(1=yes; 0=no)

**Race + Pell**
- White Pell
- White Not Pell
- Black Pell
- Black Not Pell
- Hispanic Pell
- Hispanic Not Pell

#### Covariates
- 1st Gen (neither parent with 4-year degree)
- Admit Status
  - Transfer
  - FTIC freshman
- ACT/SAT (standardized to ACT score)
- College
- Total High Impact Practices (Total #)
  - Experiential Education (Credit or UPIP)
  - Education Abroad
  - Office of Undergraduate Research participant
  - Lecture Seminar with less than 25 students
  - Learning Community participant
  - Completed UWRT course at UNCC and earned passing grade

### Library
- After Hours
- Area 49
- Book Checkouts
- Authentications (EZ Proxy + Open Athens)
- Instruction
- Laptops Checkouts + Desktop Logins
- Other Cir Checkouts
- Research Consultations
- Special Collections Visits
- Study Room Reservations

Total 4 Year Library Engagements

### Career Center
- Career Advising
- Career Fair Attendance
- Class Presentation Attendance
- Career Self-Assessment
- Career Workshops

Total 4 Year Career Center Engagement

### UCAE
- Individual Consultations (IC)
- Supplemental Instruction/PAL (SI)
- Peer Mentoring (SS)
- Tutoring Sessions (TS)
- Workshops (WS)
- Excellence Seminars (SE)
- Classroom Presentations (CP)
- Success Guides (SG)

Total 4 Year UCAE Engagement

### Writing Center
- Class Presentations
- Individual Consultations

Total 4 Year WRC Engagement

### Housing & Residence Life
- Learning Programs
- Niner Chat
- Social Programs

Total 4 Year HRL Engagement

### Student Affairs Campus Employment in any of 1st 4 Years (Dichotomous)
(Any employment in 1st 4 years as Resident Assistant OR SAFE mentor OR Orientation Counselor OR UREC)

### Extracurriculars
- Greek Life Member (Dichotomous)
- Sports Club Member (Dichotomous)
- Intramural Sports Team Membership
- UREC Visits
Delineated Engagement Pathways for 4 Year Graduation

The tables below outline pathways for co-curricular and extracurricular engagement activities that significantly increase the odds that students in each population subgroup will graduate within four years.

To interpret the findings in each table, read …

For each [engagement activity] a student in a [specific population subgroup] participated in during their first year of study, the odds they would graduate within 4 years [x times].

Example: For each library instruction session a .... subgroup member (e.g., Black Pell eligible student) participated in during their first four years of study, the odds they would graduate within four years increased x.xxx times.

Odds Ratios for 4 Year Graduation*

<table>
<thead>
<tr>
<th>Study Partner &amp; Engagement Activity</th>
<th>All Undergrads</th>
<th>Study Subgroups</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>White</td>
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<tr>
<td></td>
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<td>Pell Not Pell</td>
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<tr>
<td>Library</td>
<td></td>
<td>All Undergrads</td>
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<tr>
<td>Instruction</td>
<td>1.164</td>
<td>1.120 1.216</td>
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<td>Book Checkouts</td>
<td>1.023</td>
<td>1.028 1.030</td>
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<tr>
<td>Authentications</td>
<td>1.047</td>
<td>1.046 1.054</td>
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<tr>
<td>Laptop Checkouts + Desktop Logins</td>
<td>1.002</td>
<td>-- 1.004</td>
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<tr>
<td>Study Room Reservations</td>
<td>1.011</td>
<td>1.011 1.030</td>
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<tr>
<td>Career Center</td>
<td></td>
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<tr>
<td>Advising</td>
<td>1.332</td>
<td>1.352 1.386</td>
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<tr>
<td>Career Fair</td>
<td>1.545</td>
<td>1.526 1.626</td>
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<td>Classroom Presentation</td>
<td>1.087</td>
<td>1.108 1.112</td>
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<tr>
<td>Self-Assessments</td>
<td>1.574</td>
<td>1.776 1.457</td>
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</tbody>
</table>

*Darker shades of green in the tables represent higher odds ratios.
<table>
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<tr>
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<tr>
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<td>Pell</td>
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<td>Workshop</td>
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<td><strong>University Center for Academic Excellence</strong></td>
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<td>Individual Consultations</td>
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<td>Tutoring</td>
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<tr>
<td>Workshops</td>
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<td><strong>Writing Center</strong></td>
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<td>Classroom Presentations</td>
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<td>1.244</td>
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<td>Consultations</td>
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<tr>
<td>SA Employment</td>
<td>2.019</td>
<td>2.202</td>
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<tr>
<td><strong>Housing &amp; Residence Life</strong></td>
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<td>Learning Programs</td>
<td>2.480</td>
<td>1.962</td>
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<td>Niner Chats</td>
<td>1.230</td>
<td>1.188</td>
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<tr>
<td>Social Programs</td>
<td>1.800</td>
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<table>
<thead>
<tr>
<th>Study Partner &amp; Engagement Activity</th>
<th>All Undergrads</th>
<th>Study Subgroups</th>
<th>White</th>
<th>Black</th>
<th>Hispanic</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pell</td>
<td>Not Pell</td>
<td>Pell</td>
</tr>
<tr>
<td>Extracurricular Engagement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greek Life</td>
<td>1.475</td>
<td>--</td>
<td>1.543</td>
<td>1.781</td>
<td>1.792</td>
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<tr>
<td>Sports Club</td>
<td>1.210</td>
<td>--</td>
<td>1.366</td>
<td>--</td>
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</tr>
<tr>
<td>Intramural Team</td>
<td>1.108</td>
<td>1.069</td>
<td>1.165</td>
<td>--</td>
<td>--</td>
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<tr>
<td>UREC Visits</td>
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<td>1.004</td>
<td>1.005</td>
<td>1.002</td>
<td>1.004</td>
</tr>
</tbody>
</table>

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