Strategic Retention Initiatives: The Role of First-year Experiences

First-year Seminars
Introduction to an Honors University Seminars
Living Learning Communities

Office of Institutional Research

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www.umbc.edu/oir
Objectives

• Evaluate the implications of engaging in FYEs during the first semester:
  – How many students participate?
  – Who are they?
  – Does it help?

• Review the baseline statistical model predicting retention
Guiding Principles

FYE at UMBC embody best practices in undergraduate education; these best practices are related to student engagement & success.

- Active & collaborative learning
- Academically challenging coursework
- Time on Task
- Enriching educational activities
  - Engagement in out-of-class experiences
  - Cultural diversity
- Student & faculty interaction
- Collaborations across Academic & Student Affairs’ divisions
- Student cooperation & collaboration
- Supportive campus environment

Astin (1984, 1993); Tinto (1987, 1993); Chickering & Gramson (1987); Kuh (2001); Kuh et al. (2005); Pascarella & Terenzini (2005)
First-year Experiences at UMBC

First-year Seminars

• Implemented in fall 2002

• Designed to provide first-year students (including transfer students) a small group academic experience that allows for active & collaborative learning with faculty & peers

• Incorporates traditional reading, writing, and lecture formats with field work, original research, group projects or performance
First-year Experiences at UMBC

Introduction to an Honors University Seminar

• One-credit academic orientation & transition seminars paired with popular freshman courses in content areas

• Learning goals of the IHU’s include:
  – Academic integrity
  – Time management
  – Academic expectations and skills
  – Information & technological fluency
  – Academic & career goal development
  – Interpersonal communication & teamwork skills
  – Involvement in UMBC community
First-year Experiences at UMBC

- IHU seminars are linked to the following courses:
  - ENGL 100—English Composition
  - ENES 101—Introduction to Engineering Science
  - AMST 100—Ideas & Images in American Culture
  - MATH 106—Algebra and Elementary Functions
  - IS 101—Introduction to Computer-based Systems
  - PHIL 100—Introduction to Philosophy
  - PHIL 152—Introduction to Moral Theory
  - SCI 100—Water: An Interdisciplinary Study
First-year Experiences at UMBC

Living Learning Communities

• Programs where undergraduate students live on a residence hall floor and participate in academic and co-curricular programming developed for them

• Living Learning Communities have included:
  – Shriver (2000)
  – Intercultural Living Exchange (2001)
  – Humanities (2002)
  – Honors College (2003)
  – Exploratory Majors (2006)
The NSSE (2005) shows...

- UMBC’s FYS & IHU’s goals are consistent with NSSE’s Benchmarks of Effective Educational Practice

- FYS participants reported significantly higher scores on:
  - Two benchmarks:
    - Level of Academic Challenge
    - Active & Collaborative Learning

  - UMBC has contributed to their ability to:
    - Write clearly & effectively
    - Speak clearly & effectively
    - Contributing to the welfare of your community
The NSSE (2005) shows…

• IHUs participants reported significantly higher scores on:
  – One benchmark:
    • Supportive Campus Environment

  – UMBC has contributed to their ability to:
    • Working effectively with others
    • Personal code of ethics & values
    • Deepened sense of spirituality
    • Analyzing quantitative problems
    • Solving real world problems
First-Year Experiences: 1st Semester Participation Rates *
(Fall Cohorts of Degree-seeking New Freshmen & New Transfer Students, 2000 – 2006)

FYE 1st Semester Participation Rates by Program

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>%F</td>
<td>%T</td>
<td>%F</td>
<td>%T</td>
<td>%F</td>
<td>%T</td>
<td>%F</td>
<td>%T</td>
</tr>
<tr>
<td>LLC</td>
<td>0.7</td>
<td>0.0</td>
<td>4.4</td>
<td>0.4</td>
<td>8.0</td>
<td>0.9</td>
<td>6.6</td>
</tr>
<tr>
<td>FYS</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>7.4</td>
<td>0.2</td>
<td>7.3</td>
</tr>
<tr>
<td>IHUS</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>5.2</td>
<td>0.0</td>
<td>5.7</td>
</tr>
</tbody>
</table>

Note: Duplicates and the deceased are excluded. IHU excludes PHED202, as athletes are required to take this course.
Semester Retention Rates of FYE Participants
(Fall Cohorts of Degree-seeking New Freshmen & New Transfer Students, 2000 – 2006)

* Interpret retention rates with caution. There were nine students engaged in an FYE fall 2000. There were less than 30 transfer students who engaged in an FYE fall 2001 and fall 2002.
Who Engages in an FYE the 1st Semester?

Overall
- New freshmen are more likely than new transfer students to participate
- New freshmen tend to participate in more than one FYE

First-year Seminars
- High-performing students (SAT scores, AP credit)
- Honors College students
- Dorm residents
- Non-STEM students

Living Learning Community
- High-performing students (HS GPA, SAT scores, AP credit)
- Honors College students
- Scholars program students
- Non-STEM students

Introduction to an Honors University
- STEM students
Students in Scholars’ Programs are Overrepresented in Two FYEs
(Fall Cohorts of Degree-seeking New Freshmen, 2000 – 2006)

Note: “Scholars’ Programs” include: Meyerhoff, Sondheim, CWIT, Humanities, Linehan, and the Honors College.

* Interpret Scholars’ fall 2000 participation rate for LLC with caution. There were nine students engaged in an LLC fall 2000.
Methodology

Population
• Semester retention models
  – 2000 to 2006 cohorts of degree-seeking new freshmen (n = 9,772)

Dependent Variable
• Fall to Spring 1st semester retention

Independent Variables of Interest
• 1st semester engagement in an FYE
  – First-year Seminar (FYS)
  – Introduction to an Honors University Seminar (IHU) excluding PHED 202 (required for athletes)
  – Living Learning Community (LLC)
Methodology

Control Variables

- Fall cohort term
- Sex
- Race
- Geographic origin
- HS G.P.A.
- SAT Verbal
- SAT Math
- AP credit
- Math placement
- English placement
- Major area @ matriculation

- Dorm status
- Scholar program
- Honors College
- Athlete
- UMBC scholarship
- Applied for financial aid
- Expected family contribution
- Credits attempted (BOT)
- % STEM coursework (1st sem)
- Difficulty of coursework (1st sem)
- Withdrew 1st semester
## Baseline Model of Semester Retention for Degree-seeking New Freshmen (n = 9,772)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Term (trend)</td>
<td>1.065**</td>
</tr>
<tr>
<td>Withdrew 1st semester (yes = 1)</td>
<td>.027***</td>
</tr>
<tr>
<td>African-American student (ref = white students)</td>
<td>1.895***</td>
</tr>
<tr>
<td>Asian-American student (ref = white students)</td>
<td>.767*</td>
</tr>
<tr>
<td>Other races (ref = white students)</td>
<td>1.462*</td>
</tr>
<tr>
<td>Washington suburb geographic origin (yes = 1)</td>
<td>.701***</td>
</tr>
<tr>
<td>SAT (verbal)</td>
<td>1.002**</td>
</tr>
<tr>
<td>SAT (math)</td>
<td>.998*</td>
</tr>
<tr>
<td>AP credits (transferred in any)</td>
<td>1.575***</td>
</tr>
<tr>
<td>No English placement (ref = ENGL 100 placement)</td>
<td>.582**</td>
</tr>
<tr>
<td>English 100A placement (ref = ENGL 100 placement)</td>
<td>1.248*</td>
</tr>
<tr>
<td>Dorm resident (yes = 1)</td>
<td>1.728***</td>
</tr>
<tr>
<td>Scholars Program student (yes = 1)</td>
<td>9.103***</td>
</tr>
<tr>
<td>Honors College student (yes = 1)</td>
<td>3.910**</td>
</tr>
<tr>
<td>Athlete (yes = 1)</td>
<td>3.274***</td>
</tr>
<tr>
<td>UMBC merit award (yes = 1)</td>
<td>2.327***</td>
</tr>
<tr>
<td>Credit hours attempted (ln)</td>
<td>3.269***</td>
</tr>
<tr>
<td>% STEM coursework</td>
<td>2.233***</td>
</tr>
<tr>
<td>Difficulty of coursework</td>
<td>0.687*</td>
</tr>
</tbody>
</table>

***p < .001; **p < .01; *p < .05
Semester Retention Regressed on Participation in a First-year Experience controlling for the Baseline Model of Semester Retention (n = 9,772)

<table>
<thead>
<tr>
<th>First-year Experiences</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1</td>
</tr>
<tr>
<td>Living Learning Community</td>
<td>1.220</td>
</tr>
<tr>
<td>First-year Seminar</td>
<td>1.444</td>
</tr>
<tr>
<td>Introduction to an Honors University</td>
<td>1.367</td>
</tr>
<tr>
<td>First-year Experience (LLC, FYS, or IHUS)</td>
<td>---</td>
</tr>
</tbody>
</table>

***p < .001; **p < .01; *p < .05
Limitations

• Self-selection

• Time since treatment
Estimated Effect of FYE on 1\textsuperscript{st} Semester Stop-out Rate
(Fall Cohorts of Degree-seeking New Freshmen, 2000-2006)

1\textsuperscript{st} Semester Avg. = 8.3%

<table>
<thead>
<tr>
<th>Program</th>
<th>Estimated Stop-out Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Base Model</td>
</tr>
<tr>
<td>FYS</td>
<td>6.5%</td>
</tr>
<tr>
<td>IHU</td>
<td>7.7%</td>
</tr>
<tr>
<td>LLC</td>
<td>3.8%</td>
</tr>
<tr>
<td>Any FYE</td>
<td>6.3%</td>
</tr>
</tbody>
</table>
Estimated Effect of FYE on 1\textsuperscript{st} Semester & 1\textsuperscript{st} Year Stop-out Rates
(Fall Cohorts of Degree-seeking New Freshmen, 2000-2005)

1\textsuperscript{st} Semester Avg. = 8.7%
1\textsuperscript{st} Year Avg. = 17.6%

<table>
<thead>
<tr>
<th>Any FYE</th>
<th>Base Model</th>
<th>Controlling for FYE</th>
<th>Percent decrease (1-(FYE/Base))*100</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Semester</td>
<td>6.9%</td>
<td>5.6%</td>
<td>19%</td>
</tr>
<tr>
<td>1st Year</td>
<td>15.9%</td>
<td>13.9%</td>
<td>13%</td>
</tr>
</tbody>
</table>
Estimated Effect of FYE on 1st Semester, 1st Year & 2nd Year Stop-out Rates (Fall Cohorts of Degree-seeking New Freshmen, 2000-2004)

1st Semester Avg. = 8.7%
1st Year Avg. = 17.6%
2nd Year Avg. = 29.2%

<table>
<thead>
<tr>
<th>Any FYE</th>
<th>Base Model</th>
<th>Controlling for FYE</th>
<th>Percent decrease (1-(FYE/Base))*100</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Semester</td>
<td>7.0%</td>
<td>6.3%</td>
<td>10%</td>
</tr>
<tr>
<td>1st Year</td>
<td>15.9%</td>
<td>13.8%</td>
<td>13%</td>
</tr>
<tr>
<td>2nd Year</td>
<td>26.2%</td>
<td>23.5%</td>
<td>10%</td>
</tr>
</tbody>
</table>
Conclusions

• Prior OIR analyses using the NSSE (2005) show that FYS & IHUS participants stated they were more engaged than non-participants.

• First semester engagement in an FYE is positively correlated with retention.

• There are groups who are under-represented in FYEs:
  – Non-Scholars and non-Honors College students
  – Transfer students
  – Commuting students