Assessing the Impact of a First Year Learning Community for Less Prepared and Well Prepared Students at a Research University

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Your precious daughter is going to college!
Would you select a school that offered learning communities to first year students?
You are starting a career as a faculty member.
Would you want to teach in a learning community?
Questions you might ask

• Dad: Is an LC experience going to help my daughter adjust to college? Be a better student? Make connections with peers?

• Faculty member: Is participating in an LC going to take up all my time? Help me become a better teacher?
Learning Communities: Attractive - but are they effective?

• Growing literature advocating LCs, especially for less prepared, low income, and SOCs (Engstrom & Tinto 2008)
• Questions raised about controlling for self-selection into LCs (Pike, Hansen & Lin, 2011)
• Questions about the validity of self-report measures of learning outcomes (Bowman, 2011)
Goals for LCs that include less prepared students:

- Increase persistence and performance
- Avoid stigmatization (universal instructional design)
- Capitalize on diversity to enrich classroom experiences for all students
Less prepared students at the U of M

• Legacy of admitting less prepared students to General College (1932-2006)
  – GC faculty became department of Postsecondary Teaching and Learning in College of Education and Human Development
• Desire to provide access for low income, first generation, immigrant students and SOCs
• Desire to provide pathways for students from Twin Cities urban high schools
The Access To Success (ATS) Program

• 450 students admitted contingent on participation in ATS – placed in college that best fit student’s interests
  – 30 enrolled in College of Food, Agriculture and Natural Resources
  – 220 enrolled in College of Liberal Arts
  – 200 enrolled in College of Education and Human Development (CEHD)
ATS in CEHD

• Three subgroups:
  – 100 TRIO program students (low income, first generation);
  – 50 Commanding English (immigrant, low income, first generation);
  – 50 other (includes some student athletes)
Non ATS students in CEHD

• 250 well prepared students interested in the colleges’ majors:
  – kinesiology,
  – sports management,
  – business and marketing education,
  – human resource development,
  – family social science
  – foundations of education.
The first year experience (FYE) in CEHD

• Fall semester – First Year Inquiry
  – Thematic, team taught, multidisciplinary, writing intensive course
  – Editing writing course for Commanding English students

• Spring semester – Learning Community
  – Paired courses (liberal education and major requirements) with integrated assignments
  – Study strategies course paired with Liberal Ed course for TRIO/CE students
FYE implementation

• Courses taught by faculty in department of Postsecondary Teaching and Learning (PsTL) in CEHD.
• Two years of faculty research, consulting, and planning prior to implementation.
• Collaboration with student services and other CEHD departments to ensure curriculum facilitated student progress to a degree.
PsTL faculty

- Multidisciplinary: disciplines include biological science, physical science, social science, mathematics, humanities, communications
- ESL specialists: ESL trained instructors in writing and speech communications
- Research focus: effective postsecondary teaching
Question 1

• Does the curriculum provide support to retain less prepared students?
  – Compared to better qualified peers, does the curricular experience lead to high levels of retention for less qualified students?
  – Do less qualified students earn grades that will allow them to persist to a degree?
Question 2

• Compared to prior cohorts that experienced high impact educational practices but did not experience LCs, do students who experienced LCs have better outcomes?
Question 3

• Do less prepared students report gains on learning outcomes addressed by FYE?
The CEHD Fall 09 cohort

- 457 total students
- 205 ATS; 252 non ATS
- 64.3% female
SOCs are over represented in ATS

<table>
<thead>
<tr>
<th></th>
<th>non ATS</th>
<th>ATS</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian</td>
<td>5 (2%)</td>
<td>9 (4%)</td>
<td>14 (3%)</td>
</tr>
<tr>
<td>Asian</td>
<td>15 (6%)</td>
<td>70 (30%)</td>
<td>85 (19%)</td>
</tr>
<tr>
<td>Black</td>
<td>7 (3%)</td>
<td>73 (36%)</td>
<td>80 (18%)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>7 (3%)</td>
<td>14 (7%)</td>
<td>21 (5%)</td>
</tr>
<tr>
<td>White</td>
<td>217 (86%)</td>
<td>36 (18%)</td>
<td>253 (55%)</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>3 (1%)</td>
<td>4 (1%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>252</td>
<td>205</td>
<td>457</td>
</tr>
</tbody>
</table>
ACT Composite by ATS Status

ACT Composite Distribution: By ATS Participation

Not ATS
ATS
Retention: ATS and non ATS not significantly different

2nd yr retention rates: CEHD by ATS participation

<table>
<thead>
<tr>
<th></th>
<th>Not ATS (n=252)</th>
<th>ATS (n=205)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrolled</td>
<td>86.5%</td>
<td>84.4%</td>
<td>85.6%</td>
</tr>
<tr>
<td>Not Enrolled</td>
<td>13.5%</td>
<td>15.6%</td>
<td>14.4%</td>
</tr>
</tbody>
</table>
Academic performance: CEHD ATS vs. Non ATS

- Spring cumulative GPA >=2.0
- Fall term: Zero W count
- Fall term: Zero F count
- Fall term: Zero D count

Not ATS
ATS
Summary of Academic Outcomes

• ATS and non ATS retention: 84.5%, and 86.4%; nsd
• ATS and non ATS end of fall term GPAs: 2.63, and 3.39; p < .001
• Lower grades and higher numbers of D, W and F grades predict lower future retention rates, p < .05
Question 2: LC vs. no LC

- 179 students from the ATS 2009 cohort matched to pairs from the General College 2005 cohort on gender, race and ACT composite
- 2005 GC cohort did not experience LCs, did experience high impact practices and interaction with same faculty members
- Controls for self-selection into LCs
Results

• Retention: nsd (09 cohort 84%, 05 cohort 80%)
• First semester GPA: nsd (09 cohort 2.63, 05 cohort 2.71)
• Beginning of second year cumulative GPA: nsd (both cohorts 2.83)
Conclusions

• Retention rates for 09 and 05 pairs may diverge over time
• Early results suggest that LC curriculum did not produce better outcomes on academic performance measures.
• Self selection may account for results of LC research
Question 3: Perceived Learning

• Student Experience in the Research University (SERU) delivered to all U of M students Spring 10

• 162 CEHD first year students responded (35.5% response rate)
  – 68 ATS (33.2% response rate)
  – 94 non ATS (37.5% response rate)
Learning outcomes

• SERU learning outcome items ask students to rate their abilities before and after starting college.
• Abilities rated on a scale from 1-6 with 1 being very poor and 6 being excellent
• Difference scores were calculated
• The most common outcome was no difference.
FYE learning outcomes

• In a separate study, 200 students sorted the SERU items by learning outcomes.
• Items representing two SLOs were selected for analysis:
  – Communicating effectively: 6 items
  – Appreciation for diversity: 2 items
Ability to read and comprehend academic material ($p < .05$)

![Bar chart showing the percentage of students who showed no change, one unit increase, or 2+ units increase in ability to read and comprehend academic material, with a comparison between Not ATS and ATS groups.](chart.png)
Ability to be clear and effective when writing (p < .05)

![Bar chart showing percentage of students with different levels of improvement in writing ability, comparing ATS and Not ATS groups.](chart.png)
Ability to speak clearly and effectively in English (p < .001)

![Bar chart showing the comparison between Not ATS and ATS categories across different change levels: No change, One unit increase, 2+ units increase. The chart indicates a significant difference between the two groups, with a higher percentage in the Not ATS category compared to the ATS category, especially in the 'No change' category.](chart.png)
Interpersonal (social) skills (p < .01)

![Bar chart showing the percentage of students with different levels of no change, one unit increase, and 2+ changes in interpersonal (social) skills, comparing Not ATS and ATS categories.]
Ability to appreciate, tolerate and understand racial and ethnic diversity (nsd)
Ability to appreciate cultural and global diversity (nsd)

- No change
- One unit increase
- 2+

Not ATS
ATS
Conclusions

• ATS students were more likely to perceive improvement in their communication skills.

• ATS and non ATS were equally unlikely to perceive improvement in appreciation for diversity.
Overall conclusions

- CEHD ATS and non ATS students were retained at equal rates
  - Both groups fell short of the university’s ambitious goal of 90% retention.
  - ATS students significantly lower GPAs and first year indicators suggest that third year retention will drop.
  - Continuing support beyond the first year is an issue for less prepared students
• LC experiences did not strongly advantage the 09 cohort compared to the 05 cohort.
  – High impact practices are effective with or without LCs
  – Research on LCs should control for both student and instructor self-selection
• Self reported gains on SERU suggest less prepared students reported bigger gains in skills
  – Tendency for well prepared students to report no gain raises questions about validity of self-report measures (Bowman, 2011) and low impact of college (Arum & Roksa, 2011).