Rethinking Community College Developmental Education

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Community College Remediation

- 42% of freshmen in 2-year publics take a remedial course vs. 20% in 4-year publics
- 60% of recent high school graduates who enter higher ed. through community colleges take at least one remedial course
- < 25% of dev ed students complete in 8 years vs. 40% of “college-ready” students
- Cost estimates: $1.9-$2.3 billion at ccs (Strong American Schools, 2009)
Potential Effects of Developmental Education

• We would expect positive effects:
  – Developmental education teaches basic skills students need to succeed in college-level courses; without dev-ed, how can they succeed?

• But there may be negative side-effects:
  – Are students appropriately assessed and referred?
  – Can students afford the time and expense required to complete dev ed?
Passing First College-Level Course

Estimated Discontinuity = -0.014(0.012)

Fall-to-Fall Retention

Estimated Discontinuity = -0.001(0.006)

Transfer to 4 yr

Estimated Discontinuity = 0.233(0.649)

Total College-Level Credits Earned

Estimated Discontinuity = 0.020(0.012)

Calcagno & Long Study
Conclusions about Effects

• Several well-designed studies agree there are no strong positive or negative effects for students *near the cut score*

• Recent research suggests that dev ed might not benefit students referred 2 or 3 levels below college-ready

• Success rates of students referred to lower levels are extremely low

• Success rates of lower level “college-ready” students are not high
Issues with Development Ed

- Placement testing
- Sequence completion
- Content misalignment
- Quality of instruction
Placement Testing

• Problems:
  – High stakes, yet students usually uninformed
  – No obvious cutoff point; confusion about what it means to be “college ready”
  – Assessments not good predictors of success in courses; don’t capture non-academic predictors of college success
  – Don’t diagnose student needs, nor provide useful information to students or faculty

• Solutions:
  – College readiness protocols for high school students
  – Standards such as Common Core
  – More diagnostic + “non-cognitive” tests
El Paso: College Readiness Initiative

**College Readiness Protocol**
- HS students complete college application
- Orientation to ACCUPLACER test
- Students take the test
- Refresher course and retesting for non-passers
- Summer bridge program, if necessary

**Impact:** All El Paso area high school seniors (10,000)

**Fewer students in lowest 2 levels**
- 4 below: 31% → 22%
- 3 below: 25% → 19%

**More into higher levels**
- College Ready: 3% → 5%
- Highest dev ed: 28% → 41%
Completing the Sequence

• Problems:
  – Students placed in lowest “level 3” very unlikely to ever finish
  – Other students drop out from sequence

• Solutions:
  – High school partnerships, summer bridges
  – Other options for lowest-level students (e.g. I-BEST)
  – Acceleration programs for higher-level students
Math Dev Ed Sequence Progression

- Sample: 2001-2005 AtD cohorts, tracked for three years

- Percentages in ( ) indicate skipping that level & enrolling in higher level

- Percentages in blue indicate total enroll, including skippers

- 10% total GK completion accounts for skippers who enrolled in a higher level and progressed

Completed in-line: 6%
TOTAL: 10%

GK Algebra

Enrolled 10% 14%
Passed 14%

1 level below

Enrolled 18% 23%
Passed 24%

2 levels below

Enrolled 34% 39%
Passed 50%

3+ levels below

Not completed 14% (2%)

Not enrolled 6% (1%)

Not enrolled 2%

Not completed 4%

Not enrolled

Enrolled 10% 14%

Not completed 4%

Enrolled 10% 14%
Passed 14%

Not completed 2% (2%)

Not enrolled

Enrolled 10% 14%
Passed 14%

Not completed 10%

Not enrolled 22%

Not completed 22%

Not enrolled 19% (9%)

Enrolled 73% 73%

Referred to Level

3+ 96,653

Not enrolled 22%
Sample: 2001-2005 AtD cohorts, tracked for three years

Referred to Level 3+:
- 15,255

Not completed:
- 30%

Not enrolled:
- 12%

Passed:
- 58%

Enrolled:
- 70%

3+ levels below:
- Enrolled 70%
- Passed 58%
- Not enrolled 10%
- Not completed 3%

2 levels below:
- Enrolled 48%
- Passed 45%
- Not enrolled 6%
- Not completed 3%

1 level below:
- Enrolled 39%
- Passed 36%
- Not enrolled 7%
- Not completed 4%

GK English:
- Enrolled 29%

TOTAL: 25%

Passed:
- 58%

Enrolled:
- 70%

3 levels below:
- Enrolled 39%
- Passed 36%
- Not enrolled 7%
- Not completed 4%

2 levels below:
- Enrolled 45%
- Passed 45%
- Not enrolled 6%
- Not completed 3%

1 level below:
- Enrolled 29%
- Passed 29%
- Not enrolled 4%
- Not completed 2%

Not enrolled:
- 12%

Not completed:
- 30%
Math Dev Ed Outcomes
(Over 3 years)

Math - Full Sample

<table>
<thead>
<tr>
<th>Referred to</th>
<th>Total</th>
<th>1 level below</th>
<th>2 levels below</th>
<th>3 levels below</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>28%</td>
<td>11%</td>
<td>31%</td>
<td>11%</td>
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<td>11%</td>
<td>18%</td>
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<td>4%</td>
<td>16%</td>
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<td></td>
<td>16%</td>
<td>21%</td>
<td>15%</td>
<td>15%</td>
</tr>
</tbody>
</table>

Legend:
- Blue: Never enrolled
- Light Green: Not re-enrolled
- Green: Not completed dev
- Red: GK Not enrolled
- Dark Blue: GK Not passed
- Light Blue: GK Passed

Achieving the Dream data
Summary: Progression Patterns (Over 3 Years)

- Only about 1/3 of referred students complete their math sequence; less than 1/5 complete a college-level math course.
- Exit between courses is a serious problem for students referred to multiple levels.
- Compliance: About 1/3 of referred students never enroll in dev. ed. What happens to them?
CC of Baltimore County
ALP Accelerated English

• Program Design
  – Upper-level developed English students “mainstreamed” into English 101 – 8 ALP students per 20-student ENGL 101 section
  – ALP students take companion class taught by ENGL 101 Instructor

• Results
  – ALP students significantly more likely to pass ENGL 101 and 102 than non-ALP students
  – ALP more cost-effective route to passing ENGL 102 ($2,680 versus $3,122)
  – ALP benefits estimated at twice the costs
ALP Outcomes: Passed ENG 101
(not attempted within 1 year = not passed)

* p < 0.05; ** p < 0.01
ALP Outcomes: Passed ENG 102
(all students who took ENG 052)

* p < 0.05; ** p < 0.01
Content Misalignment

• Problems:
  – No clear learning outcomes, common assessments
  – Lack of alignment with college-level courses
  – Little attention to “college knowledge” and skills

• Solutions:
  – Create learning outcomes + common assessments
  – Student success courses
  – Create new curriculum pathways, contextualizing instruction
Carnegie Foundation Statway

• Program design
  – Statway: college-level statistics course incorporating needed algebra; would enable most students to skip dev ed
  – Mathway: for STEM majors

• Results
  – Curriculum/assessments being developed with 19 colleges using Gates funding
  – CFAT will seek to convince university math associations to accept for transfer
I-BEST

• I-BEST (Integrated Basic Education and Skills Training)
  – Developed by WA community and technical colleges to improve transition from adult basic skills to college/careers
  – College-level occupational courses team taught by basic skills and professional-technical teachers
  – Enhanced funding of 1.75 FTE

• Results
  – 51% of I-BEST students completed certificate in 2 years vs. 14% of comparison group; rigorous analysis by CCRC provides evidence of causal effects
  – CCRC analyzing cost-effectiveness
Disconnected Pathways to College and Career Success

Key:
- = strong job connection to jobs
- = Weak connection between education levels
- = Strong connection between education levels

Community College Programs
- A.A.
- A.S.
- A.A.S.
- College Remedial / Developmental
- High School Academic Programs
- ABE, GED, ESL

High School Skills Training
- H.S./Adult Voc Skills Training

Career-long Learning / Professional Development
- Workplace Literacy Training

Managers/Technical Professionals
- Skilled Technicians
- Entry-Level Technicians
- Entry-Level Skilled Jobs
- Semi-Skilled Jobs
- Unskilled Laborer Jobs

Graduate / Professional Education
- B.A.
- B.S.
Quality of Instruction

• Problems:
  – Majority of instructors are adjuncts
  – Little guidance on effective teaching practices
  – “Drill and skills” instruction methods seem to predominate

• Solutions:
  – Use instructional technology to enhance learning?
  – Contextualize instruction?
Probabilities Compared: I-BEST and Propensity-Score-Matched Students

Note: Outcomes for 2006-07 and 2007-08 first-time enrollees tracked over 2 years.
What States Can Do

- Promote efforts to define standards for “college readiness” and for program and course learning outcomes

- Strengthen longitudinal tracking of students; report by college rates of progression and success (milestones and “momentum indicators”) by level of remedial referral

- Engage college personnel across silos in identifying areas for improvement and developing and evaluating strategies using local data

- Explore performance funding that rewards colleges for increasing progression and completion rates for disadvantaged students (e.g. WA and OH)
Community College Student Milestones

• Took and passed college-level courses (for students starting in remedial programs)
• Earned 12 college credits and still enrolled
• Completed college-level math and English
• Persisted term to term and year to year
• Earned 30 credits and still enrolled
• Earned occupational certificate
• Earned associate degree
• Transferred to a baccalaureate program
Community College Student Milestones

5-Year Gatekeeper Course Attempt and Completion Rates
College-Ready Students vs Those Referred to Developmental

- Attempted "gatekeeper" math course: College-Ready 45%, Developmental 30%
- Completed "gatekeeper" math course: College-Ready 37%, Developmental 24%
- Attempted "gatekeeper" English: College-Ready 60%, Developmental 67%
- Completed "gatekeeper" English course: College-Ready 52%, Developmental 55%
“Momentum Indicators”

• Took a college-success course
• Passed 80% or more of attempted hours in year 1
• Passed college math within 2 years
• Passed college English within 2 years
• Earned 12 college credits in year 1 (for part-time students); earned 24 credits in yr. 1 (for full-timers)
• Enrolled full-time
• Enrolled continuously
• Entered coherent program of study
## “Momentum Indicators”

5-Year Success Rates for Students Referred to Remediation

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earned 12 or more credits in year 1 (p-t students)</td>
<td>59%</td>
<td>17%</td>
</tr>
<tr>
<td>Passed college math within 2 years</td>
<td>72%</td>
<td>18%</td>
</tr>
<tr>
<td>Passed college English within 2 years</td>
<td>56%</td>
<td>12%</td>
</tr>
</tbody>
</table>
State Process for Promoting Continuous Improvement

State-level leadership for improved outcomes

Track student progress – longitudinal, disaggregated intermediate + final measures

Engage colleges to identify “leaks” and identify high performers

Help colleges diagnose leaks, implement and evaluate systemic solutions

Create policy incentives for and remove barriers to institutional innovation

Feedback loop – continuous monitoring

IMPROVED OUTCOMES FOR UNDERPREPARED STUDENTS
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