FastStart@CCD: Accelerating Student Progress and Engaging Faculty as Learners

Elaine DeLott Baker
Community College of Denver

Nikki Edgecombe
Community College Research Center, Teachers College

Lisa Silverstein
Community College of Denver

Third Annual Conference on Acceleration in Developmental Education
June 16, 2011
Baltimore, MD
FastStart@CCD

Elaine DeLott Baker
• **Overview: Using Compression to Accelerate Student Success**

Nikki Edgecombe
• **Analysis: Student Characteristics and Outcomes**

Lisa Silverstein
• **Authentic Professional Development: A Faculty Learning Community Model**

*This project was conducted with the generous support of the Bill & Melinda Gates Foundation.*
Holistic Approach to Reduce Time to Completion

Cognitive
Academic Innovation

Affective
Learning Community, Case Management, Career Planning

Logistic
College Knowledge
Key Program Components

Professional Development
Interactive Pedagogy/Contextualization
Academic Strategy: Acceleration through Compression

FastStart students complete two to four semesters of developmental courses in one semester.

This study examines outcomes for developmental mathematics combinations:

- Arithmetic and Pre-algebra (MAT 30-60)
  - Three levels below college math
- Pre-algebra and Beginning Algebra (MAT 60-90)
  - Two levels below college math
Dynamics of Acceleration through Compression

• Course compression REDUCES LOSS POINTS in the developmental sequence

• Extended instructional contact hours can encourage INTERACTIVE TEACHING

• Increased TIME ON TASK reinforces learning

• Student-centered learning environment promotes STUDENT ENGAGEMENT
FastStart Case Management: Addressing the Logistical and Affective Domains

**Navigator**
- Recruitment/Screening
- Resource Referral, 1:1 Support
- Assistance with College Processes
- Career Exploration and Guidance

**Academic Planning**
- Academic Planning
- Student Ambassadors
- Assistance with Financial Aid
- Links with Instructors

**FastStart Case Management:**
Addressing the Logistical and Affective Domains
Challenges to Achieving Scale

• Logistics, scheduling, academic standards
• Transition from the culture of grants to the culture of mainstream college operations
• Using data for program improvement
• Calculating cost/benefit to justify institutionalization
• Professional development to maintain program quality and fidelity
Applying a Cost Benefit Analysis

Making the Case for Institutionalization:

**Pilot**

Average Per Student Revenue $1,898

Average Per Student Cost $875

**Net Benefit after nine terms** $1,024

[The break-even point (costs=benefits) takes place in Term 2.]

**At Scale**

Average Per Student Revenue $1,898

Average Per Student Cost $224

**Net Benefit after nine terms** $1,674

[The break-even point (costs=benefits) takes place in Term 1.]
FastStart@CCD Analysis: Student Characteristics and Outcomes

• Quantitative analysis conducted by:
  – Shanna Smith Jaggars and Rachel Rosen

• Qualitative fieldwork conducted by:
  – Nikki Edgecombe and Davis Jenkins
Research Questions

• Who are the FastStart students included in this analysis?

• How do FastStart students compare to other students referred to developmental education?

• How do FastStart and non-FastStart students compare across key academic outcomes?
Who are FastStart students?

Sample

- FastStart: First-time students who enrolled in a FastStart section of MAT 30 or 60 between Spring 2006 and Spring 2008.
- Comparison group: First-time students who enrolled in a non-FastStart section of MAT 30 or 60.
- Both groups exclude repeaters and are limited to students entering CCD during or after Fall 2003. Students are tracked for 2 years after MAT 30 or 60 enrollment.
How do FastStart students compare to other dev ed students?

<table>
<thead>
<tr>
<th></th>
<th>FastStart MAT 30-60 (1)</th>
<th>Non-FastStart MAT 30-60 (2)</th>
<th>Difference (1)-(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>69</td>
<td>643</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>71%</td>
<td>54%</td>
<td>17% **</td>
</tr>
<tr>
<td>Age 25 or older at entry</td>
<td>22%</td>
<td>26%</td>
<td>-4%</td>
</tr>
<tr>
<td>White</td>
<td>25%</td>
<td>29%</td>
<td>-4%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>49%</td>
<td>40%</td>
<td>9%</td>
</tr>
<tr>
<td>Black</td>
<td>14%</td>
<td>23%</td>
<td>-9%</td>
</tr>
<tr>
<td>Asian</td>
<td>6%</td>
<td>4%</td>
<td>2%</td>
</tr>
</tbody>
</table>

Note: + Statistically significant at p< .10; * p< .05; ** p< .01; *** p< .001
How do FastStart students compare to other dev ed students?

<table>
<thead>
<tr>
<th></th>
<th>FastStart MAT 30-60 (1)</th>
<th>Non-FastStart MAT 30-60 (2)</th>
<th>Difference (1)-(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pell grant recipient</td>
<td>45%</td>
<td>53%</td>
<td>-8%</td>
</tr>
<tr>
<td>Placed in MAT 30</td>
<td>99%</td>
<td>97%</td>
<td>2%</td>
</tr>
<tr>
<td>During FastStart semester:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Taken success course</td>
<td>46%</td>
<td>7%</td>
<td>39% ***</td>
</tr>
<tr>
<td>- Current age</td>
<td>21.62</td>
<td>23.22</td>
<td>-1.6 *</td>
</tr>
<tr>
<td>- Full-time student</td>
<td>49%</td>
<td>34%</td>
<td>15% **</td>
</tr>
<tr>
<td>- Case management</td>
<td>100%</td>
<td>9%</td>
<td>91% ***</td>
</tr>
<tr>
<td>- Light-touch case mgmt</td>
<td>100%</td>
<td>6%</td>
<td>94% ***</td>
</tr>
<tr>
<td>- Intensive case mgmt</td>
<td>3%</td>
<td>3%</td>
<td>-</td>
</tr>
</tbody>
</table>

Note: + Statistically significant at p< .10; * p< .05; ** p< .01; *** p< .001
How do FastStart students compare to other dev ed students?

<table>
<thead>
<tr>
<th></th>
<th>FastStart MAT 60-90 (1)</th>
<th>Non-FastStart MAT 60-90 (2)</th>
<th>Difference (1)-(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>53</td>
<td>483</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>60%</td>
<td>55%</td>
<td>5%</td>
</tr>
<tr>
<td>Age 25 or older at entry</td>
<td>43%</td>
<td>28%</td>
<td>15%                *</td>
</tr>
<tr>
<td>White</td>
<td>30%</td>
<td>35%</td>
<td>-5%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>43%</td>
<td>36%</td>
<td>7%</td>
</tr>
<tr>
<td>Black</td>
<td>15%</td>
<td>21%</td>
<td>-6%</td>
</tr>
<tr>
<td>Asian</td>
<td>6%</td>
<td>4%</td>
<td>2%</td>
</tr>
</tbody>
</table>

Note: + Statistically significant at p< .10; * p< .05; ** p< .01; *** p< .001
How do FastStart students compare to other dev ed students?

<table>
<thead>
<tr>
<th></th>
<th>FastStart MAT 60-90 (1)</th>
<th>Non-FastStart MAT 60-90 (2)</th>
<th>Difference (1)-(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pell grant recipient</td>
<td>58%</td>
<td>54%</td>
<td>4%</td>
</tr>
<tr>
<td>Placed in MAT 30</td>
<td>74%</td>
<td>64%</td>
<td>10%</td>
</tr>
<tr>
<td><strong>During FastStart semester:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Taken success course</td>
<td>32%</td>
<td>8%</td>
<td>24% ***</td>
</tr>
<tr>
<td>- Current age</td>
<td>25.53</td>
<td>23.33</td>
<td>2.2 *</td>
</tr>
<tr>
<td>- Full-time student</td>
<td>57%</td>
<td>45%</td>
<td>12%</td>
</tr>
<tr>
<td>- Case management</td>
<td>100%</td>
<td>14%</td>
<td>86% ***</td>
</tr>
<tr>
<td>- Light-touch case mgmt</td>
<td>100%</td>
<td>8%</td>
<td>92% ***</td>
</tr>
<tr>
<td>- Intensive case mgmt</td>
<td>4%</td>
<td>6%</td>
<td>-2%</td>
</tr>
</tbody>
</table>

Note: + Statistically significant at p< .10; * p< .05; ** p< .01; *** p< .001
# How do FastStart and non-FastStart students compare across outcomes?

## Descriptive Outcomes

<table>
<thead>
<tr>
<th>Outcome</th>
<th>MAT 30-60</th>
<th>MAT 60-90</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FS</td>
<td>Non-FS</td>
<td>FS</td>
</tr>
<tr>
<td><strong>All Students</strong> N=69 N=643 N=53 N=483 N=122 N=1126</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Short-term persistence</td>
<td>68%</td>
<td>57%</td>
<td>+</td>
</tr>
<tr>
<td>- Long-term persistence</td>
<td>38%</td>
<td>32%</td>
<td></td>
</tr>
<tr>
<td><strong>Non Co-Enrolled Students</strong> N=57 N=558 N=46 N=399 N=103 N=957</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Credits passed with ≥ C</td>
<td>19.41</td>
<td>16.46</td>
<td></td>
</tr>
<tr>
<td>- College credits passed with ≥ C</td>
<td>10.71</td>
<td>9.38</td>
<td></td>
</tr>
<tr>
<td>- Passed final course in dev sequence (MAT 90) with ≥ C</td>
<td>39%</td>
<td>20%</td>
<td>**</td>
</tr>
<tr>
<td>- Enrolled in gatekeeper math</td>
<td>7%</td>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>- Passed gatekeeper math with ≥ C</td>
<td>5%</td>
<td>5%</td>
<td></td>
</tr>
</tbody>
</table>

Notes: +Statistically significant at p < .10; * p < .05; ** p < .01; *** p < .001
Passed Final Course in Dev Math Sequence (MAT 90) with Grade ≥ C

** p<0.01; *** p<0.001
How do FastStart and non-FastStart students compare across outcomes?

- Regression analyses helped to isolate the effects of FastStart program components across academic outcomes.
  - Compression
  - Student success course
  - Case management
Regression Analyses Results

- FastStart has modest positive effect on short-term persistence
  - Controls (All) = student characteristics + success course + case management
- FastStart has significant positive effect on completion of developmental math sequence
  - Controls (Any) = student characteristics, success course, case management
Regression Analyses Results

FastStart does not appear to have a significant effect on:

• Long-term persistence
• Credits passed with a grade $\geq C$
• College credits passed with a grade $\geq C$
• Gatekeeper math enrollment
• Passing gatekeeper math with a grade $\geq C$
Predicted Probabilities of Passing MAT 90 Across Treatment Groups

- No CSM: 32%
- Light-Touch CSM: 17%
- Intensive CSM: 37%
- FastStart: 52%
Conclusions

- FastStart helped students to successfully complete the developmental math sequence, but had no strong effect on other key outcome variables over 24 months.

- The impact of course compression appears to be independent of the student success course component.

- There is suggestive evidence that the course compression effect is also independent of FastStart’s integrated light-touch case management.

- Additional analyses examining larger samples of FastStart students across math and English and over longer periods of time is warranted.
Authentic Professional Development: A Faculty Learning Community Model

FastStart@CCD

Please follow this link to view Lisa Silverstein’s Prezi: http://prezi.com/clunjdpnfk5w/authentic-professional-development-a-faculty-learning-community-model/
Resources


Contact Information

Elaine Baker, Senior Counsel to the Provost
Community College of Denver
Elaine.Baker@cccs.edu

Nikki Edgecombe, Senior Research Associate
Community College Research Center, Teachers College
edgecombe@tc.edu

Lisa Silverstein, Coordinator of FastStart@CCD
Community College of Denver
Lisa.Silverstein@cccs.edu
For more information:

Please visit us on the web at [http://ccrc.tc.columbia.edu](http://ccrc.tc.columbia.edu), where you can download presentations, reports, *CCRC Briefs*, and sign up for news announcements.

Community College Research Center
Institute on Education and the Economy, Teachers College, Columbia University
525 West 120th Street, Box 174, New York, NY 10027
E-mail: ccrc@columbia.edu
Telephone: 212.678.3091