Let Icarus Fly: Unleashing student achievement through multiple measures assessment

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John J. Hetts, Ph.D.
Senior Director of Data Science
Educational Results Partnership
Overview

• Standardized tests systematically underestimate student capacity
  • Students of color
  • First generation college students
  • Lower SES
  • Women
• Multiple measures (esp. GPA) fairer and far more accurate predictor of college performance/graduation
  • Increase grad rates, decrease time to completion
• Very low cost, exceptionally high ROI
  • To students
  • To colleges
  • To state
Daedalus and Icarus

- Daedalus crafted the labyrinth of inescapable complexity for King Minos.

- To escape from Minos, Daedalus built wings of feather and wax for his son Icarus and himself.

- Don’t fly too high, lest sun melt the wax and you plummet to your doom.
  - Dangers of innovation/invention, hubris,
  - Importance of knowing your limits, listening to your wiser elders.

- But most of us forget the rest of that story…
Student transition to college

• Community colleges rely nearly entirely on standardized assessment

• Most CC students placed below college-level
  • Significant barrier (Bailey, Jeong, and Cho, 2010)

• First interaction is to tell students they don’t belong

• Imply that most students are not ready for college and are likely to fail
  • Convinces many, including our students
Conventional Wisdom Explaining Assessment Results

• It is a problem with today’s students
  • Students are simply, vastly unprepared for college
  • Kids these days ....

• It is a problem with public education
  • Public education is failing to prepare students
  • Teachers these days...
What If the Conventional Wisdom is Wrong?

- Substantial, long-term increase in IQ: [bit.ly/FlynnEffectIQ](bit.ly/FlynnEffectIQ)
- National Assessment of Educational Progress: at all-time highs in virtually every demographic category: [bit.ly/NAEPInfo](bit.ly/NAEPInfo)
- Research increasingly questions effectiveness of standardized assessment for placement:
Big questions

• What if the problem is not with our students, but with how we have assessed their capabilities?

• OR

• What if one of the barriers to our students’ successful transition to college is one that we fully control?
LBCC Research

- Five longitudinal cohorts tracking more than 7,000 HS grads who attend LBCC directly after high school
  - built with help of Cal-PASS

- Examined predictive utility of wide range of high school achievement data
  - most notably 11th grade California Standards Test (CST) scores and high school grades

- For predicting:
  - How students are assessed and placed into developmental skills sequences
  - How students perform in those classes
  - (and for understanding alignment between them)
Alignment in English

Predicting Placement

- CST ELA (z): 1.34
- Eng Grade (12): .30
- GPA (other): .00

Predicting Performance

- CST ELA (z): .88
- Eng Grade (12): .37
- GPA (other): .17

* p < .05  ** p < .01  *** p < .001, x = p < 1 x 10^{-10}
Alignment in Math

Predicting Placement

- CST Math (z): 0.75*
- Last Math Grade: 0.20
- HSGPA: 0.00

Predicting Performance

- CST Math (z): 0.73*
- Last Math Grade: 0.20*
- HSGPA: 0.25**

* p < .05 **, p < .01, *** p < .001, x = p < 1 x 10^{-10}
Key Takeaways

• Assessment should predict how students will perform at our colleges

• Instead:
  • Standardized tests best predict standardized tests
  • Classroom performance best predicts classroom performance
  • More information tells us more about students than less information

• Replicated statewide by STEPS project, conceptually replicated by CCRC work

• Significant opportunities exist to improve placement, student achievement, and students’ college experience.
Multiple Measures Placement:
Transfer-level Placement Rates F2012

- F2011 First time students: 60%
- F2011 LBUSD: 31%
- F2012 Promise Pathways - Accuplacer Only: 11%
- F2012 Promise Pathways - Multiple Measures: 13%

Transfer Level English: 14%
Transfer Level Math: 9%
F2012 Promise Pathways vs. Fall 2011 2-year rates of achievement

- Successfully Completed Transfer Math: 13.3% (F2011 LBUSD) vs. 22.9% (F2012 Promise Pathways)
- Successfully Completed Transfer English: 24.2% vs. 52.0%
- Successful Completion of English 3: 3.0% vs. 19.5%
- Behavioral Intent to Transfer: 31.0% vs. 53.8%

Legend:
- Red: F2011 LBUSD (N=1654)
- Gray: F2012 Promise Pathways (N=933)
Success rates in transfer-level courses
Fall 2012

Transfer Level English
- Non-Pathways: 64%
- Promise Pathways: 62%

Transfer Level Math
- Non-Pathways: 55%
- Promise Pathways: 51%

Neither of these differences approach significance, p > .30
Equity impact: F2011 Baseline Equity Gaps for 2-year rates of achievement

- Transfer Math Successful Completion:
  - F2011 Black: 4%
  - F2011 Asian: 12%
  - F2011 Hispanic: 18%
  - F2011 White: 21%

- Transfer English Successful Completion:
  - F2011 Black: 13%
  - F2011 Asian: 24%
  - F2011 Hispanic: 25%
  - F2011 White: 34%

- English 3 Success:
  - F2011 Black: 2%
  - F2011 Asian: 1%
  - F2011 Hispanic: 3%
  - F2011 White: 6%

- Behavioral Intent to Transfer:
  - F2011 Black: 15%
  - F2011 Asian: 33%
  - F2011 Hispanic: 32%
  - F2011 White: 41%
Equity impact: F2012 Pathways 2-year rates of achievement

- Transfer Math Successful Completion:
  - F2012 Black: 12%
  - F2012 Asian: 26%
  - F2012 Hispanic: 36%
  - F2012 White: 39%

- Transfer English Successful Completion:
  - F2012 Black: 21%
  - F2012 Asian: 39%
  - F2012 Hispanic: 51%
  - F2012 White: 64%

- English 3 Success:
  - F2012 Black: 18%
  - F2012 Asian: 23%
  - F2012 Hispanic: 28%
  - F2012 White: 42%

- Behavioral Intent to Transfer:
  - F2012 Black: 59%
  - F2012 Asian: 52%
  - F2012 Hispanic: 51%
  - F2012 White: 66%
How might this change how we understand college readiness?

College Readiness – Spring 2012 Graduates

- English: 38% (Applying LBCC Placement Model to All LBUSD Graduates) 18% (Standardized assessment (EAP))
- Math: 33% (Applying LBCC Placement Model to All LBUSD Graduates) 6% (Standardized assessment (EAP))
What was gained through evidence based approach to transition to college

• **Dramatic increases** in students attaining early educational milestones, & **shorter times to do so**

• New discussion of research and instructional pedagogy, kick-starting **experimentation** and **innovation**

• **Strong challenges** to conventional wisdom and perceptions of students by administration, staff, faculty, and students themselves

• **Saved** thousands of units of unnecessary remediation

• Reminder of the forgotten second instruction of Daedalus
  • We keep on using these tests. I do not think they mean what we think they mean…
  • **Just as important** not to fly too low.

• Concrete achievable steps that **any** college can take to dramatically improve **all** of our students’ futures.
Contact Information

• Research questions/data requests
  • John Hetts, Educational Results Partnership
    jhetts@edresults.org
  • 916-498-8980 ext. 208
  • 714-380-2678 cell
  • Twitter: @jjetts

• General questions about Promise Pathways or Long Beach College Promise
  • Alicia Kruizenga, Director of School Relations and International Education:
    akruizenga@lbcc.edu
    (562) 938-4083
    http://www.lbcc.edu/PromisePathways
Additional Resources

• Background research
  • Achieving the Dream/Jobs for the Future summary of alternative assessment
  • CCRC research on Assessment, Placement, and Progression in Developmental Education

• RP Group’s Student Transcript-Enhanced Placement (STEPS) Project

• More information about our research

• Similar CCC research and implementation: