Deconstructing Student Academic Experiences:

A Tale of an Equity Gap, and a Dog

Matt Thomas, Faculty, Political Science and Criminal Justice

Pathways to Academic Success for First-Time Freshmen Students

Peter Owens, Research Technician III, Institutional Research
Sorry WE'RE CLOSED
EXCITEMENT!
A DF What?
Complete redesign of assignment stream, focus on iterative assignments to ready students for Town Hall
EXCITEMENT!

(again)
2x
Who did I talk to?
Initial Class Survey - POLS 155 F19

This survey helps me to better understand your expectations about the class, and about the semester in general. There are no right or wrong answers, and the survey has no impact on your grade in the class.

When you think about taking American Government, what are the first thoughts that come to mind (remember - there are no wrong answers!)

---

What year are you at Chico State?

- First Year
- Second Year
- Third Year
- Fourth Year
- Fifth or More
Dear Matthew Thomas,

Each semester Progress Reports are sent out to help monitor the academic progress of selected students who are participating in the Educational Opportunity Program (EOP), Student Support Services (SSS), Chico Student Success Center (CSSC), Chico Stem Connections Collaborative (CSC2) and Foster Youth (FYP) programs. During the seventh week of the semester, we send progress reports to you, electronically, for students that we are attempting to meet with on a regular basis.

The information that you provide on the progress report form is reviewed by an adviser and then used as an advising tool when meeting with students. These forms serve as a valuable resource to help advisors recognize potential problems early and provide useful advice to students as they work toward their academic goals. All students have been informed and are aware that their academic progress will be monitored.

If you receive a progress report for any of your students, we encourage you to please fill it out and return it at your earliest convenience. The support programs thank you in advance for helping our students achieve their dreams.

Click on or copy link below to any internet browser in order to begin.

http://sa.csuchico.edu/advisor/pr/login.asp

Please call Thang Ho at extension 6784 or email me at ttho@csuchico.edu if you have any questions.
What if I didn’t wait until Week 7 for that email?
“The Triangle of Accountability”
73?

Nope, only 16
Important Class Notes

• 5th THM Assignment – Due Wednesday at Noon!

• Use the comments from your TA for any issues in THM #3 & #4

• New Extra Credit – Go to a Chico State Athletic Event!

• Tutoring Available
Been/Going

• Last Week: Civil Liberties/Civil Rights

• This Week: Continue Civil Rights, and begin Public Policy – YES!
## SUBJECTIVE SCORE
**INSTRUCTOR USE ONLY**

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**IMPORTANT**

- **MADE DARK MARKS**
- **ERASE COMPLETELY TO CHANGE**
- **EXAMPLE:** A₁ : B₈ : C₁₀ : D₉ : E₅

**TO USE SUBJECTIVE SCORE FEATURE:**

- Mark total possible subjective points
- Only one mark per line on key
- 163 points maximum

---

**NAME**

**SUBJECT**

**DATE**

**TEST NO.**

**PERIOD**

---

**FOR USE ON TEST SCORING MACHINE ONLY**

**TEST RECORD**

- **PART 1**
- **PART 2**
- **TOTAL**

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The First Amendment of the US Constitution provides a guarantee of free speech. Is it every okay to restrict someone's free speech? What would the circumstances entail? If you believe that we should never restrict free speech, what are your reasons for that stance?

How do you study for exams? What steps do you take to make sure you have a good command of the material for a class? Do you prefer to study alone, or with a group of classmates? What study skills do you need to work on to improve?
WRONG!

Weekly Range: 125 to 256

\[ \Sigma = 2545 \]

\[ \bar{X} = 170 \]
OPENING GOLDEN DOORS
Turning Rights into Reality in Times of Migration and Conflict

a presentation by
Emily Arnold-Fernández

The 2019 Constitution Day Address
Tuesday, October 1
6:00 pm
BMU Auditorium
California State University, Chico

Asylum Access believes all refugees deserve a fair chance at life.

Emily Arnold-Fernández
Founder and Executive Director of Asylum Access
SPOT!
What does Congress look like?

- Must be 25 (House) or 30 (Senate)
- Must be a citizen (7 years for House, 9 years for Senate)
- Must be a resident of the state (and district in House)
- But it isn’t very diverse
- Demographics
POLS 155 Mid-Semester Survey

Who is your TA for the course?

1. McKena Barker
2. Gregory Kling
3. Jeremy Markley
4. Michael Swindle
(well, not completely)
Only 12 Students went to Tutoring (84 combined visits)

Got to do better!

1 = Withdraw
1 = B
1 = B+
2 = A-
7 = A!
So, what happened?
\( \sim 14\% \quad \sim 8\% \quad \sim 3\%\)

*Caution! Small \( n \) = lack of statistical significance!
BUT!
Final Grade - Impact of Extra Credit

No Change: 47.2%
1/3 Grade: 32.5%
2/3 Grade: 13.5%
Full Grade: 6.1%
Full Grade+: 0.8%
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- This class meets the following General Education requirements:
  - Individual and Society (D1)
  - U.S. Diversity Course
Let’s Think for a Moment

• What other changes – in class or on our campus – might positively impact DFWs and Equity Gaps?

• What resources or collaborations would help address DFWs and Equity Gaps?

• What concerns do you have about the topics of DFWs and Equity Gaps?
Now get in groups and discuss

• What other changes – in class or on our campus – might positively impact DFWs and Equity Gaps?

• What resources or collaborations would help address DFWs and Equity Gaps?

• What concerns do you have about the topics of DFWs and Equity Gaps?

• One Group Member Should Keep Master Notes!
PATHWAYS TO ACADEMIC SUCCESS FOR FIRST-TIME FRESHMEN STUDENTS

Peter B. Owens, Ph.D.
Chico State Office of Institutional Research
pbowens@csuchico.edu
DFW RATES AND STUDENT EQUITY

- DFW
  - D+, D, F, or WU grade

- Major factor in explaining differential student graduation & retention rates

- Not equally distributed across the student community
WHAT WE KNOW

- + in Lower-Division classes
  - 13% LD vs. 7.5% UD
- + for Historically-Underserved / Underrepresented students (URM)
  - 14.5% for underserved vs. 9% for historically-served
- + for Male students
  - 13% for Men vs. 9% for Women
- Intersection of race/ethnicity and gender
  - + for historically-underserved men / - for historically-served women

Source: Bell, “Analysis of DFW Rates for the Fall 2013-Spring 2017 CSU Chico Classes”
MIND THE GAP... BUT DON’T LINGER

• Avoid equity “gap gazing” (Gutiérrez 2008)
• Presents a static portrait of inequity in education
• Focus on explaining failure / deficit rather than success / achievement
• Predictors are often not levers of change
• De-centers the experiences and agency of students
A DIFFERENT APPROACH

• What are the advantages, experiences, and behaviors that together contribute to academic success for working-class & historically-underserved women / men in their first year of study?

• Defining success: <20% individual student DFW Rate in first year of study

• How do conditions vary both between and within student groups?
  • Pell-Eligible students
  • Historically-underserved students
  • Gender
CONTRIBUTING FACTORS

• **Privileges / Advantages**
  • High prior academic achievement (High School GPA)
  • Low weekly work requirements (hours usually worked on & off campus)

• **Behaviors**
  • High academic perseverance behavior

• **Experiences**
  • Consistent & effective teaching practices
  • High-quality interactions with the campus community
CENTRAL THEMES OF FINDINGS

1. Structural privileges feed into equity gaps
2. Working students need our support
3. Setting up students for success in the classroom
4. Equity is relational
DATA SOURCES

• CSU, Chico Institutional Data
  • 2016 & 2018 National Survey of Student Engagement (NSSE)
    • Assesses student behaviors and experiences
    • Administered biennially in Spring term

• Sample – First-Time Freshmen
  • Pell Eligible = 259
    • Women = 180 / Men = 79
  • Historically Underserved = 221
    • Women = 147 / Men = 74
METHOD OF ANALYSIS

• Fuzzy-set qualitative-comparative analysis (Ragin 2000, 2008)

• Three aspects
  • Identifies coincidence of contributing factors
  • Identifies necessary conditions for success
  • Identifies combinations of conditions that together become sufficient for success
    • Boolean techniques used to reduce complexity / redundancy between combinations once identified
CENTRAL THEMES

1. Structural privileges feed into equity gaps

2. Working students need our support

3. Setting up students for success in the classroom

4. Equity is relational
COINCIDENCE OF PRIVILEGES

• Structural inequalities and historical power relations produce an unequal sorting of educational privileges / advantages across race/ethnicity, class, and gender

• Two impactful privileges for academic success when entering college:
  • High prior academic achievement in high school
  • Low weekly work requirements while in college

• We can expect students with both privileges to have a considerable advantage over those who do not have them
COINCIDENCE OF PRIVILEGES

• Historically-underserved and Pell-eligible students have lower coincidences of both privileges/advantages than Pell-ineligible and historically-served students

• Within both groups, male students have lower coincidence rates than female students
  • A noteworthy exception: Pell-eligible & historically-underserved women
1. Structural privileges feed into equity gaps

2. **Working students need our support**

3. Setting up students for success in the classroom

4. Equity is relational
NECESSARY CONDITION

• Having low weekly work requirements is consistently necessary (but generally insufficient) for all students to achieve first-year success

• Not all students who have low weekly work requirements achieve first-year success

• **But** a consistent majority of students (81 – 86%) who achieve first-year success also have low weekly work requirements

• Support services for working students should therefore have global importance for improving first-year student achievement, but are insufficient on their own
WORK AND HIGHER EDUCATION: CONTEXTUAL FACTORS

- Educational expenses have increased 8 times faster than wages in past 30 years
- Promising debt relief initiatives have been compromised (PSLF)
- Students are generally more debt-averse than in the past
• 80% of 2019-2020 first-time freshmen identified non-academic support services as either important or very important to their academic experience (2019 BCSSE)

• Slim majorities of FTF experienced “very little” or “some” campus support in this area in Spring 2014, 2016, and 2018 (NSSE)
CENTRAL THEMES

1. Structural privileges feed into equity gaps
2. Working students need our support
3. Setting up students for success in the classroom
4. Equity is relational
SUFFICIENT CONDITIONS

• Pell-Eligible Students
  • When prior academic achievement is HIGH:
    • Low work requirements
    • OR High-quality interactions with campus community when Effective teaching practices are less consistent
  • When prior academic achievement is more variable (i.e., high for some, low for others):
    • BOTH Low work requirements AND Effective teaching practices

• Pell-Eligible Women
  • High prior academic achievement
  • When prior academic achievement is more variable:
    • BOTH Low work requirements AND Effective teaching practices

• Pell-Eligible Men
  • If prior academic achievement is HIGH:
    • Low work requirements
  • When prior academic achievement is more variable:
    • BOTH Low work requirements AND Effective teaching practices
• Historically-Underserved Students
  • When prior academic achievement is HIGH:
    • EITHER Low work requirements OR High-quality interactions with campus community
  • When prior academic achievement is more variable (i.e., high for some, low for others):
    • BOTH Low work requirements AND Effective teaching practices

• Historically-Underserved Women
  • When prior academic achievement is HIGH:
    • Also need low work requirements
  • When prior academic achievement is more variable:
    • BOTH low work requirements AND Effective teaching practices

• Historically-Underserved Men
  • When prior academic achievement is HIGH:
    • BOTH Low work requirements AND high-quality interactions with campus community
  • When prior academic achievement is more variable:
    • Low work requirements, effective teaching practices, AND high-quality interactions with campus community
SUFFICIENT CONDITIONS

• Pell-Eligible & Historically-Underserved Students
  • When prior academic achievement is HIGH:
    • BOTH Low work requirements AND High academic perseverance
  • When prior academic achievement is more variable (I.E., high for some, low for others):
    • Low work requirements, Effective teaching practices, AND High-quality interactions
SUFFICIENT CONDITIONS FOR ACHIEVING FIRST-YEAR SUCCESS

• Pell-Eligible, Historically-Underserved Women
  • When prior academic achievement is HIGH:
    • Low work requirements, High academic perseverance, AND High-quality interactions
  • When prior academic achievement is more variable:
    • Low work requirements AND Effective teaching practices
    • AND EITHER High-quality interactions OR Academic perseverance

• Pell-Eligible, Historically-Underserved Men
  • When prior academic achievement is HIGH:
    • BOTH Low work requirements AND High-quality interactions
  • When prior academic achievement is more variable:
    • Low work requirements, Effective teaching practices, AND high-quality interactions
CENTRAL THEMES

1. Structural privileges feed into equity gaps

2. Working students need our support

3. Setting up students for success in the classroom

4. Equity is relational
FOCUS ON CLASSROOM PRACTICES

- Setting up students for success
- Clear course goals and requirements
- Well-organized course sessions
- Examples or illustrations to explain difficult topics
- Instructors provide feedback on drafts or works in progress
- Instructors provide prompt and detailed feedback on tests or completed assignments

These elements are particularly important for students entering CSU, Chico without high academic achievement in high school.
### First-Year Students

**d. Provided feedback on a draft or work in progress**

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**e. Provided prompt and detailed feedback on tests or completed assignments**

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### Frequency Distributions\(^a\)

### Statistical Comparisons\(^b\)

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**.item wording or description**

**Variable name**

**Values**

**Response options**

**Count**

**%**

**Count**

**%**

**Count**

**%**

**Mean**

**Effect size**
CENTRAL THEMES

1. Structural privileges feed into equity gaps

2. Working students need our support

3. Setting up students for success in the classroom

4. Equity is relational
QUALITY OF INTERACTIONS

• Assesses interactions with:
  • Students
  • Academic advisors
  • Faculty
  • Student services staff (career services, student activities, housing, etc.)
  • Other administrative staff and offices (registrar, financial aid, etc.)
RELATIONAL EQUITY

• Educational equity is not (only) about quantifiable achievements

• Relational Equity (Boaler 2008)
  • Feeling understood, valued, and respected by those around you
  • Subjective sense that your challenges, experiences, and knowledge are central to collective learning experiences
  • Sense that one is connected with and supported by the campus community

• Contributes to academic success
• Developed through face-to-face interactions in a variety of campus settings
THEMES

1. Structural privileges feed into equity gaps
2. Working students need our support
3. Setting up students for classroom success
4. Equity is relational

GROUP QUESTIONS

• How could I work to address one of these themes:
  • Over the next month?
  • Over the next year?
  • What resources or forms of collaboration could enable these efforts to be effective?
• What are your thoughts or reflections on these themes?
THANK YOU!

Please get in touch to continue this discussion

pbowens@csuchico.edu
FUZZY SET ANALYSIS

• Units defined by set membership
• Sets combine together constitutively to produce outcomes
  • Necessary (a) & Sufficient (b) conditions
  • Combinations of conditions that become sufficient together
• Boolean techniques are used to simplify identified but redundant combinations
  • $A \land B \land C$ and $A \land B \land \neg C \rightarrow A \land B$
INDEX-BASED FACTORS

• Students exhibiting high academic perseverance (≥ 40 on 0-60 Index) [NSSE]
  • Index components: “During the current school year, about how often have you done the following?” 1) Never 2) Sometimes 3) Often 4) Very Often
    • Studied when there were other interesting things to do
    • Found additional information for course assignments when you didn't understand the material
    • Participated in course discussions, even when you didn’t feel like it
    • Asked instructors for help when you struggled with course assignments
    • Finished something you have started even when you encountered challenges
    • Stayed positive, even when you did poorly on a test or assignment
Students experiencing **consistent & effective teaching practices** (≥ 40 on 0-60 Index) [NSSE]

- Index components: “During the current school year, to what extent have your instructors done the following?” 1) Very Little 2) Some 3) Quite a Bit 4) Very Much
  - Clearly explained course goals and requirements
  - Taught course sessions in an organized way
  - Used examples or illustrations to explain difficult points
  - Provided feedback on a draft or work in progress
  - Provided prompt and detailed feedback on tests or completed assignments
• Students experiencing **high-quality interactions with the campus community** (≥ 40 on 0-60 Index) [NSSE]

  - Index components: “Indicate the quality of your interactions with the following people at your institution.” 7-point Likert scale, 1) Poor to 7) Excellent
  - Students
  - Academic advisors
  - Faculty
  - Student services staff (career services, student activities, housing, etc.)
  - Other administrative staff and offices (Registrar, financial aid, etc.)
**RESULTS: COINCIDENCE OF PRIVILEGES**

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<th>Coincidence of High H.S. GPA * Low Work</th>
<th>Structural Privilege Gap</th>
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<td>44%</td>
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<tr>
<td>Pell Eligible * Male</td>
<td>43%</td>
<td>11%</td>
</tr>
<tr>
<td>Historically Underserved * Pell Eligible</td>
<td>42%</td>
<td>11%</td>
</tr>
<tr>
<td>HU * Pell Eligible * Female</td>
<td>41%</td>
<td>12%</td>
</tr>
<tr>
<td>HU * Pell Eligible * Male</td>
<td>44%</td>
<td>9%</td>
</tr>
</tbody>
</table>
RESULTS: NECESSARY CONDITIONS

- Having low weekly work requirements is consistently necessary (but generally insufficient) for all groups to largely avoid bad grades.

- Support services for working students therefore have global importance for addressing student achievement, but are insufficient on their own.

<table>
<thead>
<tr>
<th>Student Groups</th>
<th>Consistency with Necessity: Low Weekly Work Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Historically Underserved</td>
<td>0.84</td>
</tr>
<tr>
<td>HU * Female</td>
<td>0.84</td>
</tr>
<tr>
<td>HU * Male</td>
<td>0.84</td>
</tr>
<tr>
<td>Pell Eligible</td>
<td>0.83</td>
</tr>
<tr>
<td>Pell Eligible * Female</td>
<td>0.81</td>
</tr>
<tr>
<td>Pell Eligible * Male</td>
<td>0.86</td>
</tr>
<tr>
<td>Historically Underserved * Pell Eligible</td>
<td>0.84</td>
</tr>
<tr>
<td>HU * Pell Eligible * Female</td>
<td>0.83</td>
</tr>
<tr>
<td>HU * Pell Eligible * Male</td>
<td>0.86</td>
</tr>
</tbody>
</table>
SUFFICIENT CONDITIONS FOR FIRST-YEAR SUCCESS

• Pell-Eligible Students
  1. High H.S. GPA
     (Low Work Requirements +
      (~Effective Teaching * High-Quality Interactions))
  1. Effective Teaching * Low Work Requirements

• Pell-Eligible Women
  1. High H.S. GPA
  2. Effective Teaching * Low Work Requirements

• Pell-Eligible Men
  1. High H.S. GPA * Low Work Requirements
  2. Low Work Requirements *
     (~ High Quality Interactions +
      Effective Teaching)
SUFFICIENT CONDITIONS FOR FIRST-YEAR SUCCESS

• Historically-Underserved Students
  1. High H.S. GPA *
     (Low Work Requirements +
      High-Quality Interactions)
  2. Effective Teaching * Low Work Requirements

• Historically-Underserved Women
  1. High H.S. GPA * Low Work Requirements
  2. Effective Teaching * Low Work Requirements

• Historically-Underserved Men
  1. High H.S. GPA * Low Work Requirements *
     High-Quality Interactions
  2. Effective Teaching * Low Work Requirements *
     High-Quality Interactions
SUFFICIENT CONDITIONS FOR FIRST-YEAR SUCCESS

• Pell-Eligible & Historically-Underserved Students
  1. High H.S. GPA * Academic Perseverance *
     Low Work Requirements
  2. Low Work Requirements * Effective Teaching *
     (~High H.S. GPA + High-Quality Interactions)

• Pell-Eligible, Historically-Underserved Women
  1. High H.S. GPA * Academic Perseverance * High-Quality Interactions * Low Work Requirements
  2. Effective Teaching * Low Work Requirements *
     (~High H.S. GPA + Academic Perseverance + High-Quality Interactions)

• Pell-Eligible, Historically-Underserved Men
  1. High H.S. GPA * Low Work Requirements * High-Quality Interactions
  2. Effective Teaching * Low Work Requirements * High-Quality Interactions