Getting Hired:
How the University of California Prepares Students for the Workforce
Changing Role of Education in the 21st Century

Historically,

- Universities were proud of their educational past
- Described as “a city of intellect” (Clark Kerr, 1962)
- Focus on learning, knowledge development and creation

In the 21st Century,

- Global economies brought new expectations
- Singular focus on knowledge is no longer adequate
- Universities are urged to transform themselves
- Expect a broader perspective of education with multiple dimensions of learning and experience
Multiple Purposes of an Undergraduate Education

- The broader perspective of universities should include six dimensions (SPACES*):
  - Social skills development,
  - Personal development,
  - Academic knowledge and cognitive skills,
  - Civic engagement,
  - Economic opportunities and careers preparation, and
  - Settings for inclusiveness.

- Cultivate breadth of skills

*Research University Spaces: The Multiple Purposes of an Undergraduate Education (Steven Brint, 2015)
What are soft skills?
What Are Soft Skills

- Personal attributes, ability to interact with others
- A complement to hard skills, enhance job performance

- People skills, transferable skills, work-readiness skills, corporate skills, etc.
- Communication abilities, leadership traits, teamwork, personal and social graces.
## Literature Review on Soft Skills

<table>
<thead>
<tr>
<th>Soft skills definition</th>
<th>UCUES Survey</th>
<th>Career Builder Survey (Harris Poll)</th>
<th>Eastern Kentucky University</th>
<th>Economist Intelligence</th>
<th>Closing the Gap Companies &amp; Colleges</th>
<th>Educational Resources Information Center</th>
<th>Hart Research College Learning &amp; Career Success</th>
<th>Michigan State What's Important to New Graduates</th>
<th>(NACE) Job Outlook</th>
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Popular Soft Skills Aligned with UCUES

- Social & Interpersonal Skills
- Critical thinking & Problem Solving Skills
- Leadership Skills
- Intercultural skills
- Verbal & written Communication Skills
The Current Study: research questions and methods
Research Questions

• How do UC students rate their soft skills?

• Do UC students report changes in their soft skills by senior year?

• Are student extracurricular activities associated with soft skills development for UC students?

• Do self-reported student soft skills relate to future earnings?
Data Sources

• The University of California Undergraduate Experience Survey (UCUES)
  • 2008 UCUES senior class (N=8,168)
  • 2008 Exit cohort (N=5,633; freshman only)
• California Employment Development Department Earnings Data (EDD)
• University of California administrative data
  • Undergraduate Admissions
  • Student Success
Demographics

Gender
- Female: 37%
- Male: 63%

Race/Ethnicity
- American Indian: 0%
- Asian/Pacific Islander: 1%
- Chicano Latino(a): 0%
- International: 7%
- Other: 10%
- Unknown: 2%
- White: 37%
- African American: 42%
How do UC students rate their soft skills?
### Percentage of UC Seniors in 2008 Rating Themselves Higher, Lower, or the Same in Soft-Skill Proficiency Since Freshman Year, by Area

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<th>Skill</th>
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<th>No Change</th>
<th>Lose Skills</th>
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<td>77%</td>
<td>21%</td>
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<tr>
<td>Understanding international perspectives</td>
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<tr>
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<td>Leadership</td>
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<td>Appreciate cultural and global diversity</td>
<td>49%</td>
<td>48%</td>
<td>3%</td>
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<td>Appreciate, tolerate, and understand</td>
<td>46%</td>
<td>48%</td>
<td>6%</td>
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<tr>
<td>Speak clearly and effectively in English</td>
<td>38%</td>
<td>59%</td>
<td>3%</td>
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</table>

**ns = 7,987-8,062**
Average Starting and Ending Skill Level

[Graph showing average skill level progression over time, with specific skills listed as data points.]

- Analytical & Critical Thinking
- Non-library Research
- Writing
- Social Presentation
- Leadership
- Understand International Perspectives
- Tolerate and Understand Racial/Ethnic Diversity
- Appreciate Cultural and Global Diversity
- Personal Social Responsibility
- Speak Clear, Effective English

Average Self-Reported Skill Level When Freshmen Began at UC
Measurement of Soft Skills from UCUES data

- **Problem-Solving**
  - Analytical and critical thinking
  - Library research skills
  - Other research Skills

- **Communication**
  - Ability to be clear and effective when writing
  - Ability to speak clearly and effectively in English
  - Ability to prepare and make a presentation

- **Interpersonal / Social**
  - Leadership
  - Interpersonal (social)
  - Understanding the importance of personal social responsibility

- **Intercultural Competency**
  - Understanding international perspectives
  - Ability to appreciate, tolerate, and understand racial and ethnic diversity
  - Ability to appreciate cultural and global diversity
Factor Analysis of Soft Skills in 2008 UCUES

- Constructed four soft-skills factors based on the theoretical framework using UCUES data ($N = 31,228$)

- Used Cronbach’s alphas to check the internal consistency of the items within each factor. ($\alpha = .7 – .72$)

- For easier interpretability, created Time 1 and Time 2 weighted average scores for each factor based on factor analyses.

- The weighted average score ranged from 1 to 6, the scale for the original variables. (1=Very poor, 2=Poor, 3=Fair, 4=Good, 5=Very Good, 6=Excellent)
Average Starting and Ending Skill Level
Average Starting and Ending Skill Level
Average Starting and Ending Skill Level

- Excellent
- Very Good
- Good
- Fair

- Analytical & critical thinking
- Social
- Leadership
- Library research
- Tolerate and understand racial/ethnic diversity
- Appreciate cultural and global diversity
- Personal social responsibility
- Speak clear, effective English

Average Self-Reported Skill Level When Freshmen Began at UC
Average Starting and Ending Skill Level

- Excellent
- Very Good
- Good
- Fair

- Analytical & critical thinking
- Non-library research
- Presentation
- Leadership
- Writing
- Social
- Tolerate and understand racial/ethnic diversity
- Appreciate cultural and global diversity
- Library research
- Personal social responsibility
- Speak clear, effective English

Average Self-Reported Skill Level When Freshmen Began at UC
Problem-Solving Skills

Analytical and critical thinking; Library research skills; Other research Skills

Perceived Skill Level when Starting at UC

Perceived Skill Level in Senior Year

Larger Gains for:
- Women
- URM
- Non-STEM

no change
Interpersonal Skills

Leadership; Interpersonal; Understanding the importance of personal social responsibility

Larger Gains for:
- Women
- URM
- Non-STEM
Communication Skills

Clear and effective writing; clearly and effective spoken English; prepare and make a presentation

![Diagram showing perceived skill level in senior year vs. when starting at UC. Larger gains for: Women, URM, Non-STEM]
Intercultural Competency Factor

Understanding international perspectives; Ability to appreciate, tolerate, and understand racial, ethnic diversity; Ability to appreciate cultural and global diversity.

![Diagram showing perceived skill level in senior year vs. perceived skill level when starting at UC. The diagram indicates larger gains for Women, URM, and Non-STEM students. The axis labels are: Perceived Skill Level When Starting at UC (very poor, poor, fair, good, very good, excellent) and Perceived Skill Level in Senior Year (very poor, poor, fair, good, very good, excellent). The diagram includes a note: no change.]
Perceived Skill Levels by Factor

Freshman and Senior Year

Perceived Skill Level When Starting at UC

P = Problem Solving
S = Social/Interpersonal
C = Communication
D = Diversity

Excellent
Very Good
Good
Fair
Poor
Very Poor
Are Student Activities Associated with Soft Skills Development?
Soft Skills Development

**Started at UC**
- Soft skills overall
- Problem-solving skills
- Interpersonal skills
- Communication skills
- Intercultural Skills

**Graduating from UC**
- Soft skills overall
- Problem-solving skills
- Interpersonal skills
- Communication skills
- Intercultural Skills

**Undergraduate Experiences**

- Academic activities outside of class: Yes/No
- Community or volunteer activities: Yes/No
- Student Club or organization: Yes/No
- Physical exercise or recreational sports: Yes/No

**Other campus & life experiences**
Comparing students with and without Frequent academic activities

• Directly compare soft skills between students with and without frequent student activities by different starting levels.

• To make a simple straightforward comparison, we:
  - Dichotomized student participation
    (‘<=5 hour’ =Not Frequent, ‘>5 hour’=Frequent)
  - Three study populations with different starting skills (Low/Medium/High)
  - No control over student demographics
    (age, gender, ethnicity, first-generation status, campus, and discipline.)
Comparing students with and without Frequent academic activities

<table>
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<tr>
<th>Starting Level</th>
<th>Skill Dimension</th>
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*Participating in frequent academic activities made the biggest difference in students who started with low soft skills.*

*The biggest difference was presented in problem solving skills.*

*Students who participated in frequent academic activities reported higher soft skills in all dimensions.*
Summary of the Comparison Analysis

• Directly shows the difference in perceived soft skills

• Limitations of the comparison analysis
  - Dichotomized student participation in the activities (F/NF)
  - Starting skills were grouped into three levels (L/M/H)
  - No control over student demographics (age, gender, ethnicity, etc.)

• Regression analysis
  - Eight frequency categories of student participation
    1=0 hours, 2=1-5 hours, 3=6-10 hours, 4=11-15, 5=16-20, 6=21-25, 7=26-30, 8=More than 30
  - Six original levels (1-6) of starting skills
  - Six student demographics (age, gender, ethnicity, first-generation, discipline, campus.)
## Regression Analyses

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**p<0.01  *p<0.05**
Summary of Regression Analyses

![Bar chart showing standardized coefficients for different activities]

- **Problem-solving**
- **Interpersonal**
- **Communication**
- **Intercultural**

Activities include:
- Academic activities outside of class
- Community service or volunteer activities
- Student clubs or organizations
- Physical exercise or recreational sports
Do Soft Skills Translate into Higher Earnings?
Earnings Model Specification

- Dependent variables: Log earnings (two, four and six years after graduation)

- Predictor variables
  - Entry year
  - Demographic controls (age, gender, race/ethnicity)
  - Academic (discipline and graduating GPA)
  - Employment sector
  - Time two soft skills (all) or
  - Time two Interpersonal, problem solving, intercultural and communications skills
Interpersonal skills are related to an increase in earnings

- Interpersonal skills:
  - Four-years after graduation (N=5,765): +8.2%
  - Two-years after graduation (N=5,901): +14.3%
  - Six-years after graduation (N=5901): +8.8%

- Problem Solving:
  - Four-years after graduation (N=5,765): -0.4%
  - Two-years after graduation (N=5,901): -2.2%
  - Six-years after graduation (N=5901): -3.1%

- Communication Skills:
  - Four-years after graduation (N=5,765): +1.6%
  - Two-years after graduation (N=5,901): +1.6%
  - Six-years after graduation (N=5901): +1.1%

- Intercultural Skills:
  - Four-years after graduation (N=5,765): +1.3%
  - Two-years after graduation (N=5,901): +4.8%
  - Six-years after graduation (N=5901): +3.0%
Interpersonal Skills and Earnings

Two years after graduation  +$3,017

Four years after graduation  +$6,907

Six years after graduation  +$4,544
Conclusions

✓ Ratings indicate that more students gain skills while at UC in analytical and critical thinking than in any other area.

✓ Student activities positively associated with development of soft skills in all dimensions, especially social and interpersonal skills.

✓ Interpersonal skills are associated with an increase in earnings after graduation
UC Efforts in Supporting Soft Skills Development

Some Examples:

• UC San Diego offers quarterly personal skills development workshops

• UCLA Bruin Development Academy

• UC Berkeley’s Undergraduate Student Learning Initiative encompasses both hard skills and soft skills

• UC Riverside’s R’SUCCESS workshops

• UC Santa Barbara’s Career Center workshops
Thank You!

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