The Enrollment Cliff & Geosciences

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17 November 2022
Employment in the Pandemic

- 88% of geoscience employers received government assistance
- Effective geoscience unemployment rate was 4%.
The Enrollment Cliff

External and Internal Factors

- Demographics of College-Age Students
  - Each generation requires a new higher ed business model
  - It's hard to cut back....
- Complications from the Pandemic
- Obvious Pathways to Employment
- The Loan Forgiveness Marketing Debacle

There will be winners and losers
The Curse of Demographics
US Population Change from 2010-2019 by Age

Hundred of thousands of people

- Under 5
- 5 to 9
- 10 to 14
- 15 to 19
- 20 to 24
- 25 to 29
- 30 to 34
- 35 to 39
- 40 to 44
- 45 to 49
- 50 to 54
- 55 to 59
- 60 to 64
- 65 to 69
- 70 to 74
- 75 to 79
- 80 to 84
- 85 and over

Be Afraid, Very Afraid

Millennials

Gen X

American Geosciences Institute: Connecting Earth, Science, and People
Demographics Drive University Business Models

- Gen X remembers the mass budget cuts and losses in education
- The Millennial years fueled a binge
  - Debt loading
  - Focus on “experience” and broadening of education’s role
  - Big budgets, big overhead, and…. It was a different time
- More than 25 years ahead of at best no-growth
Diversity, We can’t “Don’t Look Up”

- Power of Promise
- The broader activity of geoscience is a sociotechnical field – now we need to actually behave like it.
In 1972, underrepresented populations was 2% of the geoscience workforce.

1972-2016, really was negligible progress
Workforce Participation by Occupation
Black and African-American

Credit: AGI, data derived from the U.S. Census Bureau and U.S. Bureau of Labor Statistics
2020 Geoscience Graduates

Respondents of Hispanic Heritage
Percent of respondents

- How do we go from 18% to 2% in 1 year?
- Pandemic had an outsized impact, but we failed to support our in-progress undergraduates.
How do we create real change?

We need to change the culture of the geosciences. Change will not come from simply “intervening” with underrepresented populations.
Did the Pandemic Change Everything?
Student Culture has Abruptly Changed
Comments for COVID-19 Study and the News

“The reading, writing, arithmetic, all the discipline skills, the book skills were all there, but putting those to good use and the things that they don't teach you in college that you need to know when you get in the real world, we're missing.” – department head

“They have extraordinarily poor social skills right now. And I think that can be seen at all levels of the institution. And I'm not just talking about students. I'm talking about staff and coworkers. It's everybody, right? We need to learn how to talk again to others … especially in large groups, because when you're in large groups, you're working off of other people's facial cues of when to stop and when to go. And when cameras are off, you don't have those social cues to work with.” – geoscience faculty

At N.Y.U., Students Were Failing Organic Chemistry. Who Was to Blame?

Maitland Jones Jr., a respected professor, defended his standards. But students started a petition, and the university dismissed him.

Early 2023 – webinar on the sociology of today’s students
Motivations for Higher Ed Reflect Economics
Students today want a job at the end
Employment Status at Graduation by Degree Level and Gender, 2020-21

Percent of graduates

- BS Female
- BS Male
- MS Female
- MS Male
- PhD Female
- PhD Male

Legend:
- Out of Workforce
- Not Looking, Temp
- Seeking Non-Geo
- Seeking Geo
- Cont Education
- Employed, not Geo
- Employed, Geo

Data sourced from American Geosciences Institute.
Changes in occupational status, Feb 2020 - Mar 2022
Recent geoscience graduates, Classes of 2014-2021

Initial population
Most recent population
Transitions between statuses
Career trajectories

Growth in post-doc and non-academic professions.

Some increase in unemployed graduates.
An Unforced Fumble in Valuing College
Bad Marketing with Loan Forgiveness

- Loan forgiveness signals higher education is not worthwhile – requiring a federal bailout to “customers”
  - Terrible way to attract first-gen students
- Did nothing to address the cost of attending college
- Coupled with high inflation and interest rates
  - Less cash for tuition
  - Potentially more difficult loan terms in the future
  - Easy loans fueled higher ed inflation

Your department needs to annunciate clearly the value proposition of your degree
For more information

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www.americangeosciences.org/workforce