Core/Pseudo-Core Experiences: Updates and Discussion

Inclusive Caltech Core Project
Mid-quarter Gathering
November 9, 2018

Plan for today

• Updates from the 2017 and 2018 entering 1st year classes / discussion
• Faculty ideas – new exam formats (physics), redesigning assignments (CS)
• TA ideas – Teaching Fellows in physics and CS
• AAU Department Chairs Meeting Recap
### Student Updates So Far...

<table>
<thead>
<tr>
<th>Term</th>
<th>Fall 2017 entering class</th>
<th>2018 entering class</th>
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<tbody>
<tr>
<td>Fall 2017</td>
<td>- Mid-quarter feedback:</td>
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<tr>
<td></td>
<td>Ma 1a, Ph 1a, Ch 1a</td>
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<td></td>
<td>- Overall questions</td>
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<td></td>
<td>- 85% response rate</td>
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<td>Winter 2018</td>
<td>- Mid-quarter feedback:</td>
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<td>Ma 1b, Ph 1b, Ch 1b</td>
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<td>- Overall questions</td>
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<td></td>
<td>- 68% response rate</td>
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<td>Spring 2018</td>
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<td>Ma 1c, Ph 1c</td>
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<td>- Overall questions</td>
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<td>- 46% response rate</td>
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<td>Fall 2018</td>
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<td>Ma 2, Ph 2a</td>
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<td>- Overall questions</td>
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<td>- 48% response rate</td>
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<td>Ma 1a, Ph 1a, Ch 1a</td>
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<td>- Overall questions</td>
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<td></td>
<td>- 90% response rate</td>
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### Topics we’ve discussed previously

- How do entering Caltech students experience changes in academic self-concept?
- Are those different for particular populations?
- What practices in classes are most helpful?
- What practices in advising are most helpful?
Malleable traits related to student success

- **Growth Mindset**: Belief that one’s abilities are developed through effort and practice (vs. being fixed traits)
- **Academic Self-Efficacy**: Belief in one’s own ability to succeed academically
- **Sense of Belonging**: Sense of being accepted, valued, included, and encouraged by others; feeling like an important member of the community

https://www.nap.edu/resource/24697/interactive/

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**Following slides:**

**Early look at new data. More analysis coming!**

**Population (e.g. gender) differences –**
- No evidence that these are related to ability
- Some may exist prior to Caltech experience

→ **What are our hypotheses/possible interpretations?**
→ **What else would we like to know or find out?**
Fall 2018 – 1st year students

So far this quarter at Caltech, how often have you...

It is amazing to be in an environment where we learn in such close proximity to the content of what we learn. It is inspiring to be in the midst of so many successful professors and fellow students. It encourages me to set higher goals for myself and explore more fields of science.

I love it here. thanks a lot :)

Fall 2018 – 1st year students

Since starting at Caltech, how do you feel you've changed in the following areas:
Use of academic resources:

Similar both years and across courses
Perceived need for / seeking:
- academic support
- non-academic support

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**Fall 2018 – 1st year students**

- Recognized the need for help with academic work:
  - Never
  - Rarely
  - Sometimes
  - Often
  - Very often
- Sought out help with academic work:
  - Never
  - Rarely
  - Sometimes
  - Often
  - Very often
- Recognized the need for non-academic forms of support:
  - Never
  - Rarely
  - Sometimes
  - Often
  - Very often
- Sought out non-academic forms of support:
  - Never
  - Rarely
  - Sometimes
  - Often
  - Very often

**Fall 2018 – 2nd year students**

- Recognized the need for help with academic work:
  - Never
  - Rarely
  - Sometimes
  - Often
  - Very often
- Sought out help with academic work:
  - Never
  - Rarely
  - Sometimes
  - Often
  - Very often
- Recognized the need for non-academic forms of support:
  - Never
  - Rarely
  - Sometimes
  - Often
  - Very often
- Sought out non-academic forms of support:
  - Never
  - Rarely
  - Sometimes
  - Often
  - Very often

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There is very little instruction on how to find other people to collaborate with, which I would have (and still would) liked to learn instead of having to rely mostly on happenstance for collaboration.

Academically things are fine, but the issue is more to balancing other parts of life, and adjusting to a different culture. If anything, I’ve noticed that I have discovered that there are many hours in a day that can be used, and straight after this, I noticed that these hours aren’t enough.
Discussion/questions?

→ What are your hypotheses/possible interpretations?
→ What else would you like to know or find out?

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Effective STEM Education:
The Role of the Academic Department and Department Chair

October 14-16, 2018

• Staffing models for introductory STEM courses
• Data to inform and assess curricular innovations
• Creating inclusive and welcoming learning environments
• Productive partnerships between academic departments and centers for teaching and learning
• Practices to value, evaluate, and reward teaching effectiveness