What structures can support/encourage action?  
Leveraging the department to transform undergraduate education
About PULSE

- Launched 2012 by NSF, NIH, HHMI
- Mission: stimulate & support systemic changes at department level
- Trillions spent on training individual faculty
  no measurable impact on leaky pipeline
- Shift to supporting departments
- Missing millions
About PULSE continued

- Guided by national recommendations (Vision & Change in Undergraduate Education: A Call to Action, 2011)
- Currently 60 PULSE Fellows from all institution types

- Support departments through 3 programs
- [https://www.pulse-community.org/](https://www.pulse-community.org/)
PULSE Regional Networks

- Regional communities of practice
- Offer workshops for faculty-admin teams
- Goal to develop action plans for implementation of department change
PULSE Ambassadors

- Lead intensive workshops with departments to
  - teach facilitative leadership
  - develop shared goals
  - support implementation
PULSE Recognition

- Provide tools for departments to assess progress
- Those seeking Recognition for progress
  - Complete rubrics, site visit eval
  - Recognized for achievements, provided feedback
  - Awarded progression-level (LEED environ. building)

Departments first engage with PULSE wherever they need to.
PULSE Rubrics

- Departmental self-assessment tool
- 6 rubrics, 78 criteria
- Evidence-based practices, excellence in teaching and learning, successful diversity, equity and inclusion
- Support success of URGs (PEERs)

People Excluded due to Ethnicity or Race
Six PULSE Rubrics

1) Curriculum Alignment
2) Assessment
3) Faculty Practice & Support
4) Infrastructure
5) Climate for Change
6) Diversity, Equity and Inclusion

7) Snapshot: sample of criteria from each of six topical rubrics

Consensus scores developed through discussion

https://pulse-community.org/rubrics
Recognition Program results

- 20 departments Recognized to date
- 10 department site visits scheduled for Fall 2022
- [https://pulse-community.org/recognitionresults](https://pulse-community.org/recognitionresults)
- Published validation, project results

For Departmental transformation, departments need:
1. Institutional culture → excellence in teaching and learning
2. Dept emphasis assessment
3. Dept champion who actively supports the work
Collaboration with AMATYC

- PULSE is happy to share word versions of the rubrics upon request
- Creative Commons license - request attribution

- NSF-funded *Teaching for PROWESS* program hosted by AMATYC
  - Rubrics and Recognition
Teaching for PROWESS

https://teachingforprowess.wordpress.com/

- Modified the PULSE rubrics to be compatible with AMATYC objectives
- Split into 7 rubrics
- Probably more directly relevant to Mathematics departments than the PULSE rubrics
Vision & Change Catalyst Tool

1) Student Learning and the Learning Environment
2) Instruction
3) Curriculum and Program Development
4) Assessment of Student Learning
5) Diversity, Equity, and Inclusion
6) Professionalism
7) Climate for Change
8) Snapshot - in progress

Power of the Rubrics

• Catalyzing department discussion
• Development of shared goals in line with national conversations
• Discrete plans for implementing change

Guide for developing department consensus:
https://teachingforprowess.wordpress.com/vision-change/
II. INSTRUCTION

CRITERION A2 (Pedagogy): Active and collaborative learning

CONTEXT: Mathematics faculty will foster interactive learning through student writing, reading, speaking, and collaborative activities so that students can learn to work effectively in groups and communicate about mathematics both orally and in writing. Active learning is defined by the following guiding principles: (1) students’ deep engagement in mathematical thinking (PRoficiency), (2) instructors’ interest in and use of student thinking (OWNership), (3) student-to-student interaction (Engagement), and (4) instructors’ attention to equitable and inclusive practices (Student Success).

<table>
<thead>
<tr>
<th></th>
<th>(0) Baseline</th>
<th>(1) Beginning</th>
<th>(2) Developing</th>
<th>(3) Accomplished</th>
<th>(4) Exemplar</th>
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<tbody>
<tr>
<td>2</td>
<td>Active and collaborative learning</td>
<td>No faculty foster active learning in the classroom</td>
<td>25% or less of faculty foster active learning in the classroom</td>
<td>~26-50% of faculty foster active learning in the classroom</td>
<td>~50-75% of faculty foster active learning in the classroom</td>
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Justification A2 (Required):
D. CLIMATE FOR CHANGE

CRITERION D1: To reduce bias, academic policies are reviewed and modified through the lens of diversity, equity, and inclusion for URGs.

CONTEXT: Institutions and departments might have policies in place that were useful at some point. However, with changing demographics, policies should be reviewed as part of the institution’s or department’s continuous improvement plan to reflect current needs. Examples may include academic policies such as pre/co-requisites, grading policies, withdrawal, pass/fail options, attendance policies, readmission, and credit for prior learning. Once policies have been reviewed, changes are implemented that support student success.

The following sources provide information to assist departments with this criterion: United States Census Bureau; AAC&U Transparency Project; More Colleges Should use Equity Audits; How Does An Equity Audit Work; Harper et al., 2009; Skyline College Comprehensive Diversity Framework for Realizing Equity and Excellence (2013); Skyline College’s Diversity Framework: Equity Audit using Completion by Design Framework (2012); Center for Urban Education’s Impact on Equity Gaps; Complete College America (2017); College Completion Network.

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<th>Baseline</th>
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<th>Developing</th>
<th>Accomplished</th>
<th>Exemplar</th>
</tr>
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<tr>
<td>1</td>
<td>Policies are not reviewed</td>
<td>Some policies are reviewed through the lens of diversity, equity, and inclusion but modifications have not been made</td>
<td>Policies impacting the department have been reviewed through the lens of diversity, equity, and inclusion and modified to reduce bias, but faculty have not successfully advocated for policies external to the department to be modified</td>
<td>Policies impacting the department have been reviewed through the lens of diversity, equity, and inclusion and modified to reduce bias. The department has successfully engaged with the institution in developing policies external to the department to reduce bias. The department has modified internal policies to reduce bias and has been a leader within the institution in developing policies to reduce bias. This work can set an example for the institution to change policies</td>
<td>Policies, internal and external, impacting the department are regularly reviewed through the lens of diversity, equity, and inclusion. The department has modified internal processes to reduce bias and has been a leader within the institution in developing policies to reduce bias. This work can set an example for the institution to change policies</td>
</tr>
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Justification D1 (Required):
Questions