Student Success in STEM

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Elements of change for student success in STEM

- Student success for URM is a deep or transformational change on most campuses– requires culture change through org learning or sensemaking
- Systemic – multiple levers; multiple levels – not single programs or policies
- Comprehensive - culture, politics, environment, leadership, planning, professional development, all matter
- Ecologically complex – beyond institution – K-12; Non-profits and college preparation; 2 year to four year; disciplines, etc.
- Requires leadership at multiple levels – department, college, institutional and disciplinary

Examples/research of initiatives based on deep change

- Achieving the Dream (ATD) – aimed at culture change, systemic, multi-level leadership, uses an organizational learning model of student success (improve data infrastructure, collect data, create teams, review data and develop customized interventions, monitor and test interventions)

- Completion by design – focused on changing culture of campus –creating a college completion norm--but guided by very specific systemic and comprehensive strategies aligned with student success from ATD (guided pathways, revised developmental education, more and intrusive advising, aggressive financial aid, emergency assistance, real-time feedback)

Achieving deep change

- Culture change requires sensemaking and/or organizational learning
- Five core strategies promote culture change – flexible vision, collaborative leadership, senior admin support, professional development, visible action
- Culture change works best if leaders understand their campus culture and customize strategies

Sensemaking

- Facilitated and on-going interaction aimed at helping people rethink roles fundamentally
- Reading groups
- Invited speakers
- Sending staff and faculty off site for field trips or conferences
- Campus wide dialogues and forums
- Brown bags and seminar series
- Formal professional development

Organizational learning

- Improve campus data infrastructure related to completion rates by race, gender, major, etc.
- Collect data related to college completion and give to a cross campus team
- Team reviews data and determines problems and interventions aimed at college completion
- Team shares data and findings with campus to develop awareness, get others on board, and implement interventions

Scaling change – beyond institutions

- Networks
- Networks combined with institutional teams
- Disciplinary societies
- Graduate education
- Leverage organizations – accreditation
- Intermediary organizations – Campus Compact
- Presidential organizations – ACE – for senior admin support

STEM does not leverage existing efforts

- Typically operates outside campus initiatives for student success
- Believes STEM is unique and can not use existing strategies
- Acting in isolation makes it unable to capitalize on systemic, complex and comprehensive approach
- Often efforts work outside existing vehicles for scaling change
- While there are some unique qualities to STEM more similarities with other disciplines than differences

Summary: What does this mean for committee deliberation?

- Cultural change means addressing values and beliefs is key.
- Systemic change means framing task as encompassing multiple levers; multiple levels of institution and enterprise.
- Comprehensive change means examining breadth of strategies or issues addressed.
- Ecologically complex means attending to major issues in environment that shape student success.
- Multi-level leadership means considering a host of leaders and leadership processes that might be leveraged and engaged.
- How might STEM utilize more of existing resources and levers?