

# A New Model for Systemic Change in Undergraduat e STEM Education

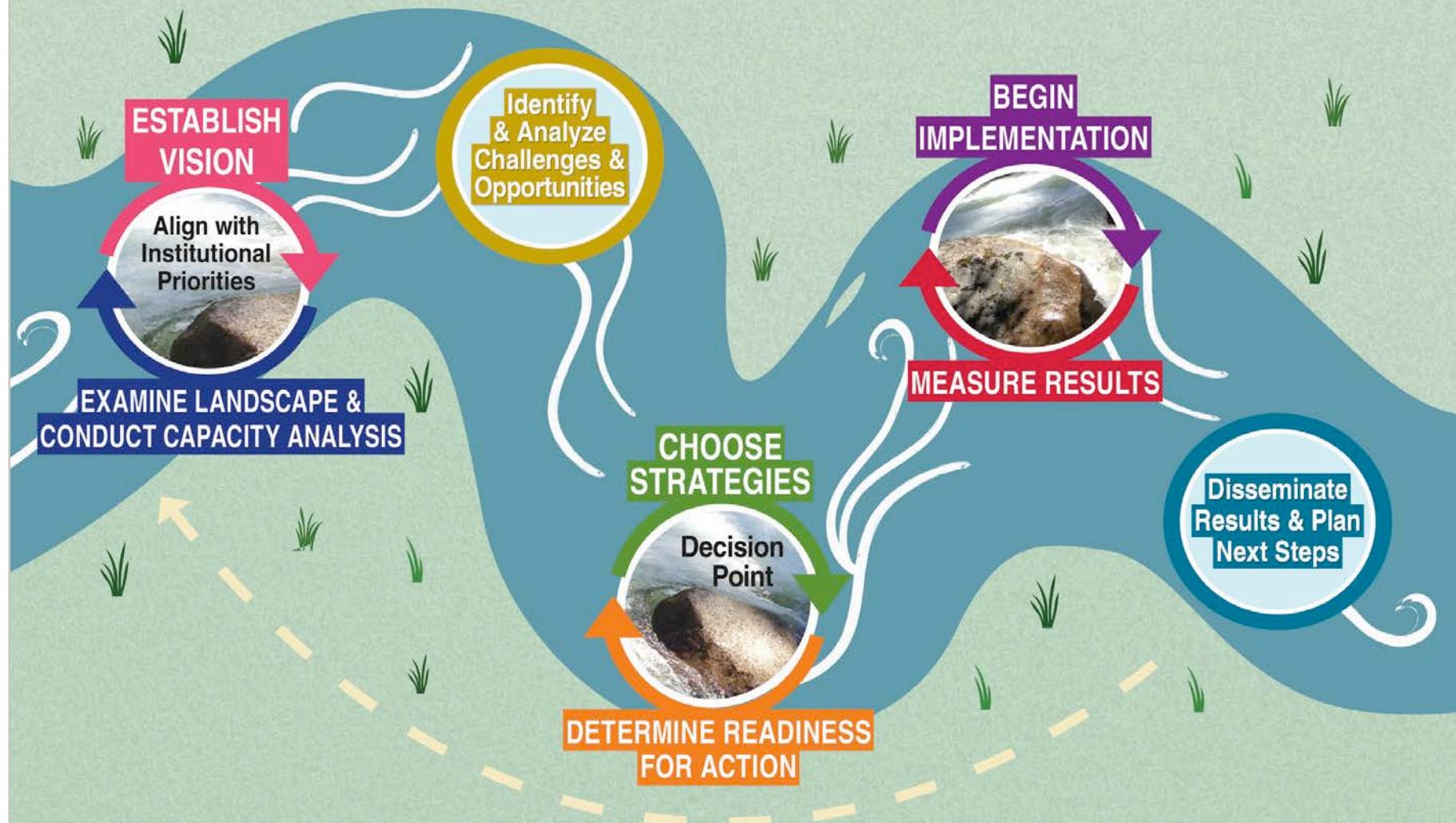
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# How the Model Helps Accomplish Reform

- ✧ Articulates a **vision** or direction for change
- ✧ Creates a **common language** and vision around the change
- ✧ Ensures **collective leadership**
- ✧ Charts a **path** for reaching the vision and goals
- ✧ Pinpoints needed **interventions** and strategies
- ✧ Serves as **catalyst** for priority setting
- ✧ Justifies **resources** (financial, human, physical) for the vision
- ✧ Fosters **learning**
- ✧ Serves as **accountability** tool for maintaining momentum on the change
- ✧ Audits or **evaluates** where you are now and where you want to go
- ✧ Maintains **focus and momentum** over the long time period change often takes

# MODEL FOR SYSTEMIC INSTITUTIONAL CHANGE



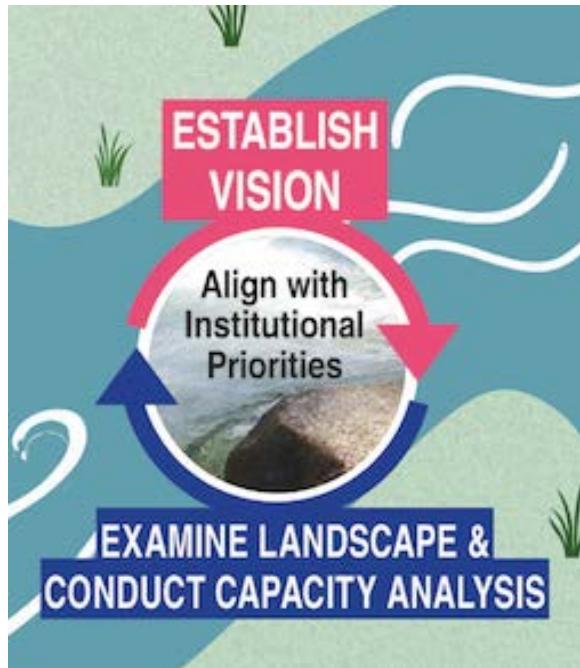
LEADERSHIP → READINESS → ACTION

# Where people usually start

- **It is easy to start where others have:**
  - From a published paper describing a successful initiative
  - From a conference session or workshop
  - From what a colleague at another institution has tried
  - What your society recommends



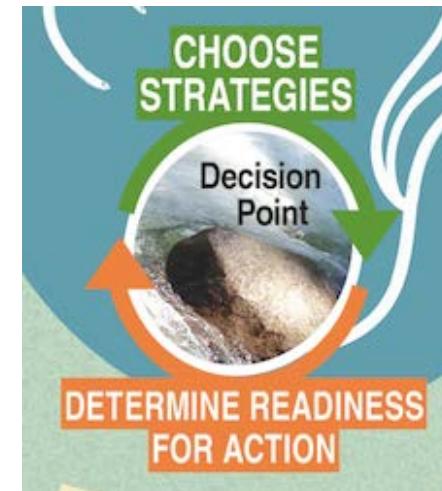
# This generally isn't successful in creating systemic or scalable change. Why not?



**Lack of common language and shared vision**



**Unclear understanding of the problem**



**Premature launch without full understanding of resources, expertise required for success**

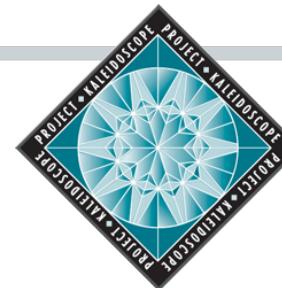
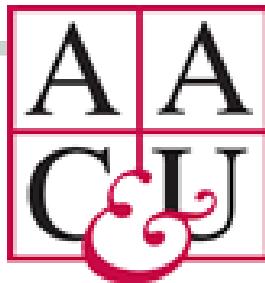
# Implicit Theories of Change

- We just need to do something!
- If we just had more money or more faculty!
- If we change the department, that will create broader change.
- All it takes is one strong champion.
- Everyone will be convinced by the data.
- Change is a rational, linear process.
- Change is either bottom-up OR top-down.
- Starting without a vision or plan will not lead to success.
- You can't change a system by just doing more of the same.
- Your departmental program depends on many others.
- Team and leader development is essential.
- Some will be threatened by data that students aren't learning in certain environments.
- Change is messy, emotional, political.
- Change is best fostered by collaborations between grassroots action and treetop support.

# Measures/Indicators Identified in the Study

- Basic demographic data on students, including ethnicity, gender, Pell eligibility.
- Retention rates, disaggregated by important demographic categories
- Graduation rates, disaggregated by important demographic categories
- Course completion, grades, progression rates
- Direct assessment of student learning in courses and programs
- Indirect assessment of student learning and experiences (e.g., NSSE)
- Program effectiveness and evaluation data
- Accreditation indicators
- Existence of advising/mentoring programs; student participation in these programs (disaggregated)
- Data on faculty attitudes and teaching practices
- Existence of faculty development programs; faculty participation
- Ways to measure effective teaching
- DBER activity (grants, conference attendance, publications)

# Project Acknowledgements



PI: Susan Elrod; Evaluator: Adrianna Kezar

# Published Guidebook

- Detailed description of the model
- Readiness survey
- Examples of indicators, measures of success
- Examples of types of interventions for different types of challenges
- Rubric to monitor progress
- Excerpts from campus case studies



# Project Resources

**Spring 2015 Peer Review**

**<https://www.aacu.org/peerreview/2015/spring>**

**Guidebook published soon (@aacu.org)**

**Campus Team Workbook**

**available on the Project Website:**

**<http://www.aacu.org/pkal/educationframework>**

# Questions?

