

Extending Buy-In for Instructional Change

Lake Ritter

Kadian M. Callahan



Table of Contents

- A bit of contextual info on KSU
- Discussion Questions & the *Institutional Change Theory Diagram*
- KSU Change Levers
 - A. Faculty Learning Communities
 - B. Learning Assistant Program
 - C. Departmental Teaching Conversations
 - D. Course Coordination Program
 - E. Mathematics Department Strand Committees
 - F. Common Final Exams
- Small Group Discussions
- Sharing out, discussion, questions

Context: Kennesaw State University

- KSU is a public, R2, comprehensive university with two campuses in Metro Atlanta
- The 3rd largest in the state, KSU serves about 35000 students in some 150 undergraduate and graduate programs
- Four year graduation rates ~ 17%, six year rates ~ 43% (among FTFT)
- KSU has 13 colleges including the College of Science & Mathematics (CSM)



Context: College of Science & Mathematics

- The College is engaged in numerous programs to support students and faculty:
 - Birla Carbon Scholars, and Mentor Protégé Programs
 - Gateways to Completion
 - HHMI funded program to improve diversity and inclusion in STEM
 - Student Success Initiative:
 - Learning Communities (First Year, Transfer)
 - Advanced Majors Program
 - Learning Assistants Program
 - Faculty Learning Communities



Context: Department of Mathematics

- It is a large department with 48 full time faculty (lecturer & tenure track), 34 contingent faculty (limited term & part time)
- We have undergraduate, but no graduate degrees (i.e. no graduate students in TA or teaching roles)
- We serve thousands of students each term: e.g. in spring 2019, we had over 8200 seats across over 200 sections of MATH courses.
[About 3000 of those seats were in P2C2 courses \(1112, 1113, 1190, 2202\)](#)
- The dept. is led by one Chair + two Assistant Chairs: Faculty serve on various committees to meet the programmatic and curricular missions. These include the course [Strand Committees](#).



Discussion Questions

(As we present KSU's tools, please consider the following questions that will be discussed.)

1. Where would you place each of KSU's change levers on the institutional change theory diagram (Henderson, Beach, & Finkelstein, 2011)?
2. What additional change levers would you suggest?
3. Do KSU efforts have the *features of effective strategies* (Henderson, Beach, & Finkelstein, 2011)?
4. How do you integrate part-time/contingent faculty into change efforts (e.g., course coordination, learning communities, peer observations), and how can reluctant faculty be encouraged to try new instructional strategies?
5. What are some recommendations that you would make for implementing common assessments?



Structure for Understanding and Analyzing KSU's Change Levers

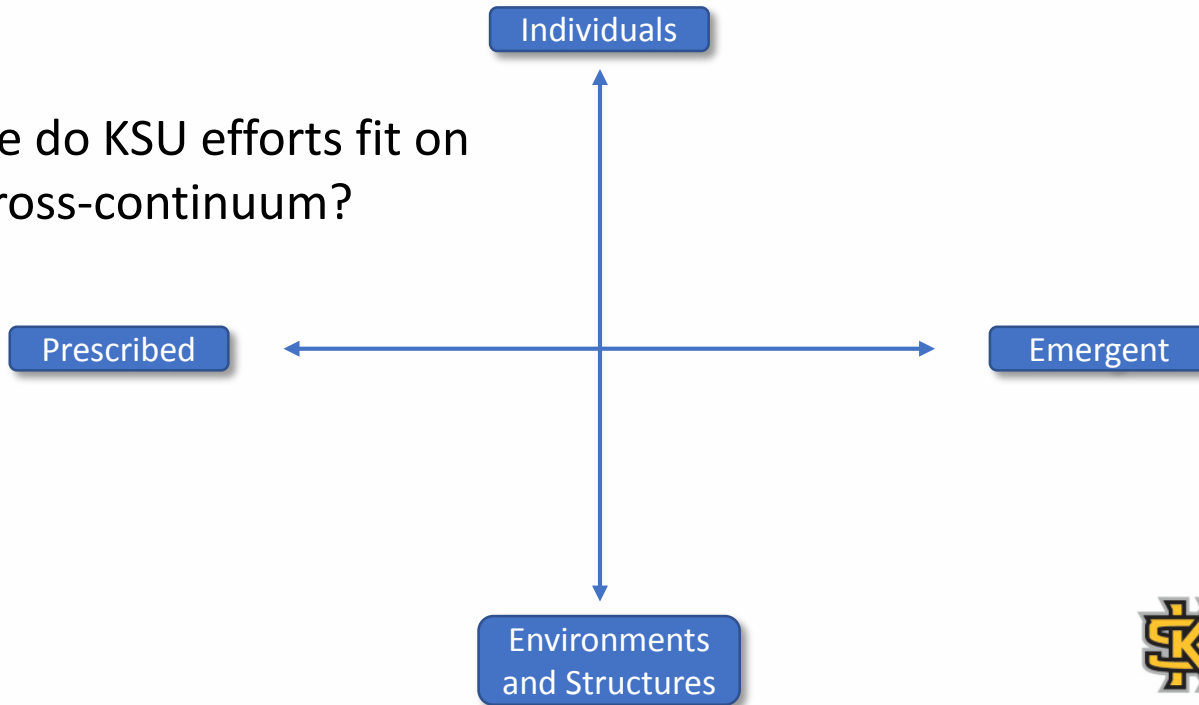
	Aspect of System to Be changed: Individuals		
Intended Outcome: Prescribed	<p>I. Disseminating: CURRICULUM & PEDAGOGY</p> <p>Change Process: Tell/Teach individuals about new teaching conceptions and/or practices and encourage use.</p> <p>Examples: dissemination/training (SER, FDR), focused conceptual change (FDR)</p>	<p>II. Developing: REFLECTIVE TEACHERS</p> <p>Change Process: Encourage/Support individuals to develop new teaching conceptions and/or practices.</p> <p>Examples: reflective practice (FDR), curriculum development (SER) , action research</p>	Intended Outcome: Emergent
	<p>III. Developing: POLICY</p> <p>Change Process: Develop new environmental features that Require/Encourage new teaching conceptions and/or practices.</p> <p>Examples: policy change (HER), strategic planning (HER)</p>	<p>IV. Developing: SHARED VISION</p> <p>Change Process: Empower/Support stakeholders to collectively develop new environmental features that support new teaching conceptions and/or practices.</p> <p>Examples: institutional transformation (HER), learning organizations (HER)</p>	
	Aspect of System to Be changed: Environments and Structures		

(Henderson, Beach, & Finkelstein, 2011)



Structure for Understanding and Analyzing KSU's Change Levers

Where do KSU efforts fit on this cross-continuum?



Features of Effective Strategies for Change

Do KSU's change levers

Align with (or
seek to
change) the
beliefs of
participants

Involve
ongoing
interventions

Fit with the
culture and
structure of
KSU



Change Levers

- A. Faculty Learning Communities
- B. Learning Assistant Program
- C. Departmental Teaching Conversations
- D. Course Coordination Program
- E. Mathematics Department Strand Committees
- F. Common Final Exams

Change Levers: Faculty Learning Communities (FLCs) and Learning Assistants (LAs)

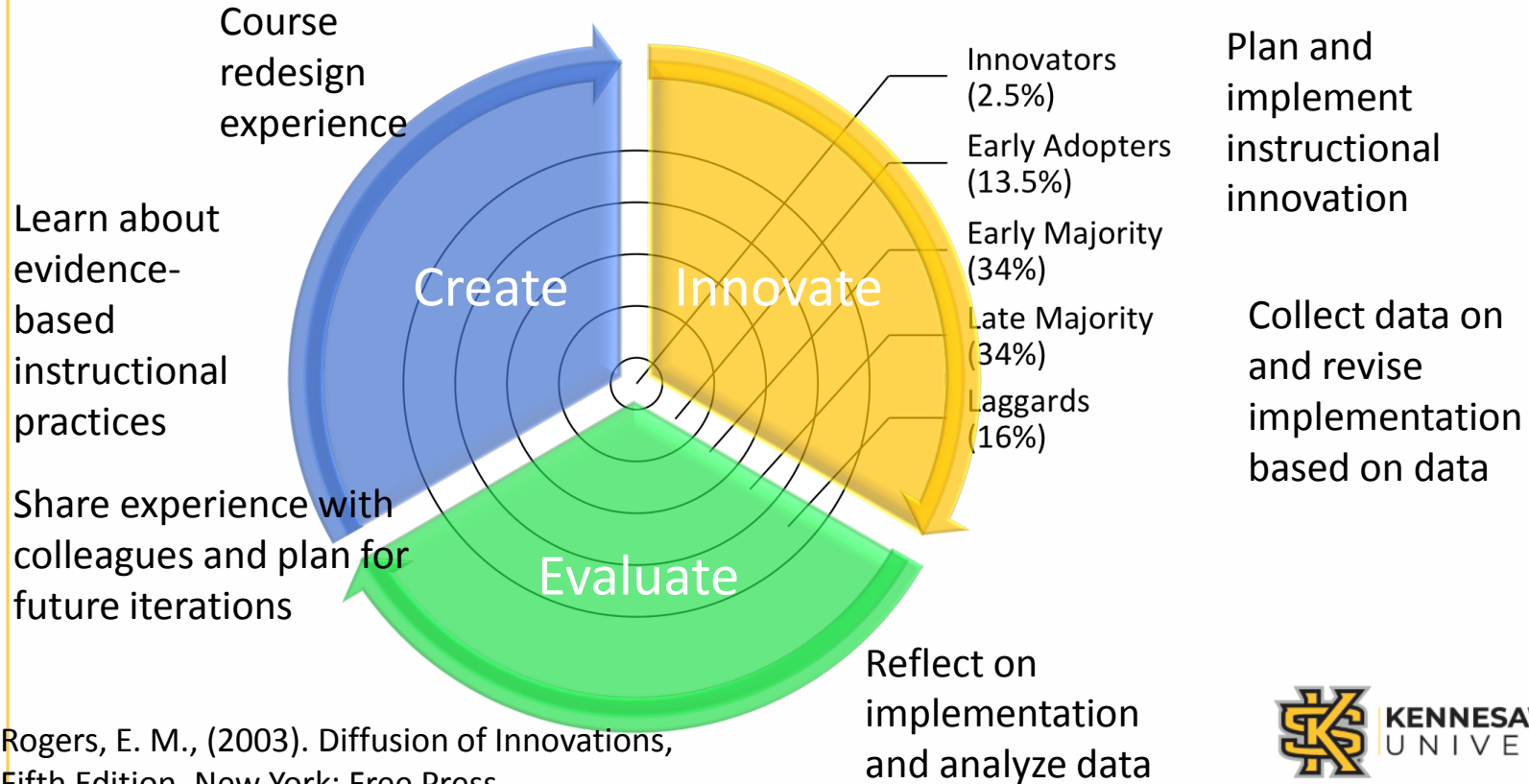
Faculty and LAs training on evidence-based, learning-centered instructional practices important for STEM

- Active learning
- Interdisciplinary connections
- Metacognition
- Inclusive pedagogies
- Teaching tools (e.g., think-pair-share, exam wrappers, student response systems)

LA and Faculty ideas and feedback shared across groups



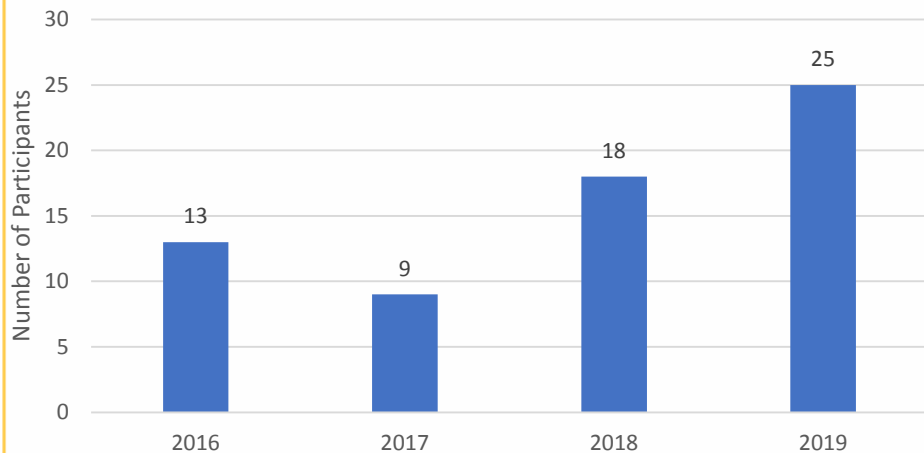
Faculty Learning Communities



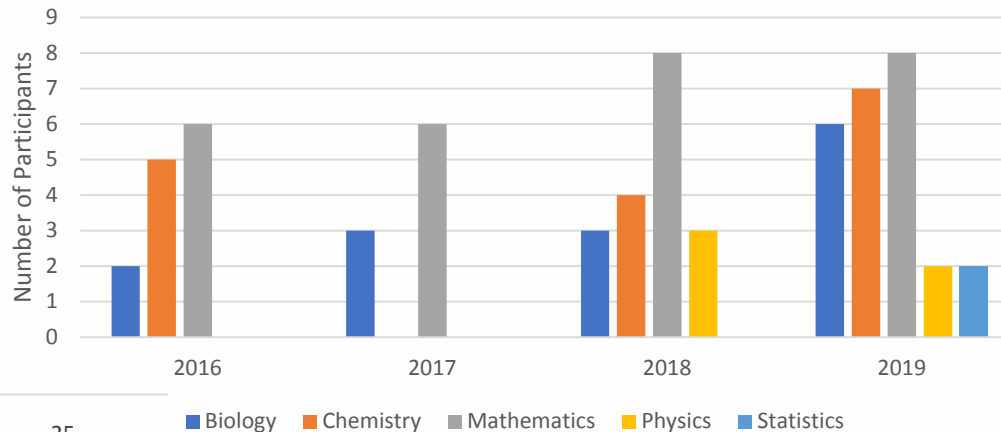
Rogers, E. M., (2003). Diffusion of Innovations, Fifth Edition. New York: Free Press.

Faculty Learning Communities

FLC Participation by Year

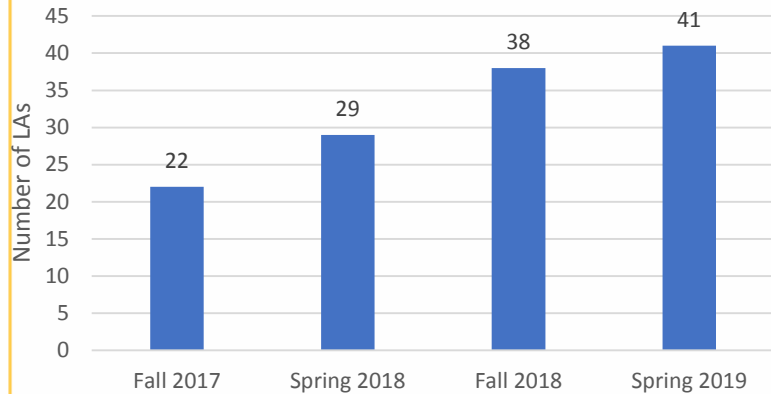


FLC Participation by Discipline

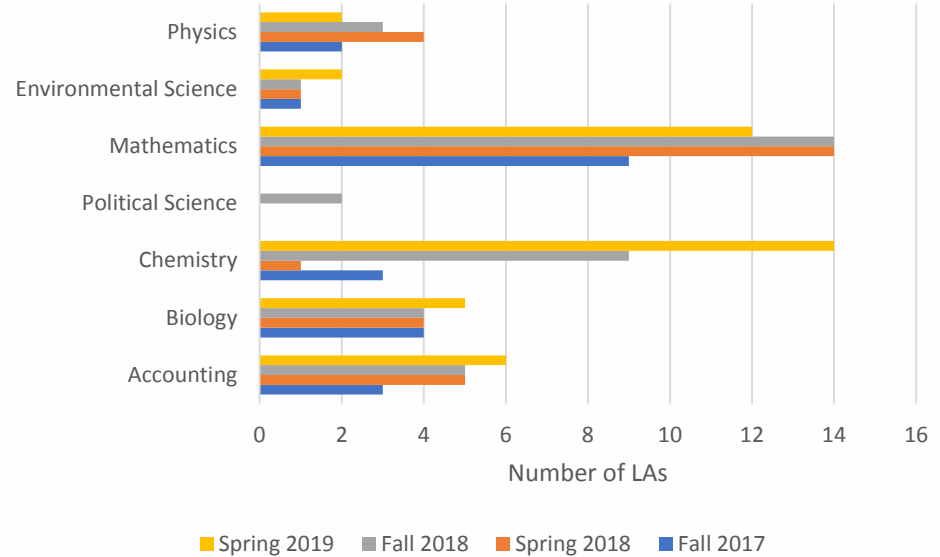


Learning Assistant Program

LAs by Semester



LAs by Discipline



Change Lever: Departmental Teaching Conversations

Teaching Conversations is a (roughly) bi-monthly seminar series for department faculty. Initiated by our chair, Sean Ellermeyer, these interactive sessions provide a forum for discussing topics on teaching.

Some topics have included:

- What do we mean by *student success*?
- Active Learning Techniques
- Grading
- *The seven deadly sins of mathematics*

Change Lever: Mathematics Department Strand Committees

The courses offered by the department are partitioned into *strands* of related courses. Each strand is overseen by a Strand Committee.

There are 8 strands:

- MATH 1101 (oversees non-STEM core courses)
- Before Calculus (P2C2 Courses governed here)
- Lower Division Calculus (and here)
- Upper Division Calculus
- Discrete Mathematics
- Algebra
- Probability and Statistics
- Real and Complex Analysis



Change Lever: Mathematics Department Strand Committees

The strand committees provide a manageable form of faculty governance. Run by a few interested volunteers, a strand committee can design and propose changes to a course or courses. According to the departmental bylaws:

The strand committees exist to provide feedback and guidance to faculty and to make recommendations to the Department or Curriculum Committee on proposed changes to existing courses. These changes may include, but are not limited to: textbook determination and selection, common assessment questions, and common classroom policies. For each course, the strand committees may also maintain: learning outcomes, list of topics/content, general pacing, sample syllabi, assessments, schedule, and classroom activities.

Change Lever: Mathematics Department Strand Committees

The Before Calculus Strand Committee has been instrumental in instituting **significant** changes:

- **Creation and implementation of a new placement policy for incoming students. (into Col. Alg., PreCalc, Calc 1)**
- Redefining the before calculus courses for horizontal alignment including Learning Outcomes, topics lists, textbooks
- Development and implementation of **common final exam** (pilot set for fall 2019!)



Change Lever: Course Coordination Program

- Prior to SEMINAL, coordination of all *Gen-Ed* courses was handled by a single individual. (all P2C2 fall under the gen-ed heading)
- SEMINAL implementation includes assignment of single course coordinators for PreCalculus and Calculus 1.
- The course coordinator serves as a point-of-contact for all faculty teaching the course and a liaison between faculty and the appropriate strand committee.

Change Lever: Course Coordination Program

Coordinator activities have included

- Meeting with all teaching faculty to discuss (and *demonstrate*) active learning and related resources
- Maintaining a repository of active learning materials for instructor use.
- Facilitating peer observation (protocol developed by the SEMINAL team)
- Communicating with instructors about guidelines or requirements (e.g. early alert reporting, surveys, etc.).
- Collecting data on the use of active learning.
- Report on the program to the Department and the Dean



Change Lever: Common Final Exams

Why is KSU trying to move toward common assessments?

- We want to ensure courses give students the necessary skills (preparation for future success)
- We hope to eliminate some of the uncertainty for students (are there really *easy* and *hard* instructors?)
- We want to measure stuff! In particular,
 - * student knowledge & skill sets
 - * Effectiveness of our course designs.

Change Lever: Common Final Exams

Common Assessment is **HARD!**

- The logistics: maintaining test integrity (30 sections of 1111 in sp '19)
- Test creation (15 individual 1111 instructors—many contingent—in sp '19)
- Resistance is high!
 - * Faculty are concerned about how new data will be used
 - * Faculty fear losing academic freedom
 - * Should a math course have the uniformity of a Big Mac^{®†}

† reference made without the express consent of McDonald's



Change Lever: Common Final Exams

The Before Calculus Strand Committee developed a pilot that received departmental approval. In fall 2019

- Common final will be implemented in College Algebra (only)
- Final will be given during regular scheduled times
- Exam will be written by team of volunteers
- Teaching faculty will have completed proto-exam by early November
- Exam will not be (only) multiple choice and will come with a rubric
- Exam will have uniform calculator/resource policy
- All face-to-face courses will be required to use the common final
- The final is required to make up at least 10% of course grade
- Individual question data will be collected, graded papers will be collected and stored



Discussion Questions

(5 minutes – small group, 5 minutes whole group)

1. Where would you place each of KSU's change levers on the institutional change theory diagram (Henderson, Beach, & Finkelstein, 2011)?
2. What additional change levers would you suggest?
3. Do KSU efforts have the *features of effective strategies* (Henderson, Beach, & Finkelstein, 2011)?
4. How do you integrate part-time faculty into change efforts (e.g., course coordination, learning communities, peer observations), and how can reluctant faculty be encouraged to try new instructional strategies?
5. What are some recommendations that you would make for implementing common assessments?



KENNESAW STATE
UNIVERSITY

Questions?

Lake Ritter

lritter@kennesaw.edu

Kadian M. Callahan

kmcallahan@kennesaw.edu