

Course: **EDUC 551 -- Analyzing School Organizations and the Policy Environment**
EDUC 639 – Engaging Educational Innovation and Improvement

Semester: Winter, 2019
Credits: 3
Days/Times: Mondays, 5:00 p.m. -- 8:00 p.m.
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Welcome to *Engaging Educational Innovation and Improvement*! EDUC 551 and EDUC 639 will be meeting jointly for this exciting course.

The course is an experiment aimed at catalyzing a world-wide community of impassioned educational professionals committed to engaging educational innovation and improvement as a field of study and a domain of practice. The course is open to all masters and doctoral students in the University of Michigan, as well as to advanced undergraduate students (with instructor permission).

Engaging Educational Innovation and Improvement is being offered at a fascinating moment in the history of US public education.

Over the past decade, a new educational reform movement has taken shape, one that has practicing educators, researchers, and reformers collaborating in novel “school improvement networks” to address educational problems, needs, and opportunities using formal methods of continuous improvement. One marker of the currency of this movement is a \$500M grant program launched by the Bill and Melinda Gates Foundation in Fall 2017 to support school improvement networks in raising academic success, high school graduation, and college placement among black, Hispanic, and poor students in the nation’s most challenged schools.

EDUC 551/639, *Engaging Educational Innovation and Improvement*, introduces University of Michigan students to the theory and practice that sit at the very center of both the “improvement movement” and the Gates-funded network initiative. The course does so using a novel, online learning platform: the School of Education’s *Leading Educational Innovation and Improvement* MicroMasters program. With that, University of Michigan students will also serve as ambassadors of the MicroMasters program in supporting other learners in the US and around the world in engaging the theory and practice of educational innovation and improvement.

To ensure that all involved begin on the same page, the following is a more-detailed-than-usual syllabus that maps out:

1. The Backstory for the Course.
2. Aims for the Course.

3. Commitments and Prerequisites.
4. Weekly Schedule.
5. Instructional Model: Self-Directed/Community-Supported Learning.
6. Expectations, Work Products, Grading, and Deadlines.
7. Optional outcomes of the Course: MichiganX certificates.
8. Correspondence, Office Hours, and Feedback.
9. University Policies.
10. Appendix A: edX Syllabus for LeadEd502x – *Designing and Leading Learning Systems*.
11. Appendix B: edX Syllabus for LeadEd503x – *Improvement Science in Education*.

1. The Backstory for the Course

More than any other course that I've taught, *Engaging Educational Innovation and Improvement* has a complex backstory – and one that is important for all in the course to understand.

It goes something like this...

A. Context: Ambitions for Educational Innovation and Improvement

In the US and around the world, teachers, educational leaders, policy makers, designers, and others are pursuing new ideas for creating rigorous, meaningful educational opportunities for all students and for ensuring students' academic success. These efforts are animated by such shared ideals as:

- Pursuing *equity* and *excellence* in education: ensuring quality and parity in educational opportunities and outcomes for all students.
- Moving beyond traditional, didactic instruction to ambitious, authentic teaching and learning.
- Transforming systems of mass schooling into *educational systems* that support the learning of students, teachers, and educational leaders.

This activity has been motivated and shaped in important ways by federal and state educational policy that, over the past 30 years, has held schools, districts, and innovators increasingly accountable for generating rigorous evidence of positive impact on student outcomes.

The press for impact, in turn, has been complemented by an “improvement movement” that has novel networks of schools, districts, and reformers co-enacting processes of continuous learning and improvement within novel network forms, all aimed at addressing interdependent problems, needs, and opportunities in classrooms, schools, and systems.

B. An Imperative and Platform for Collaboration

Realizing ambitions for transforming educational opportunities and outcomes at a large scale — in entire schools, districts, states, and nations — will require inter-professional collaboration among those leading the charge. No one person, organization, or agency has all of the knowledge, capabilities, influence, and resources needed to effect change at these levels. Success

will require that concerned, impassioned professionals with deep, diverse strengths learn to work together in new ways and to greater effect.

This *imperative* for collaboration requires a *platform* for collaboration:

- Shared space, vocabulary, norms, and values supporting collegial interaction and learning.
- Common framework for understanding the work of educational innovation and improvement.
- Common approaches to educational innovation and improvement.

Step 1: Creating the Platform

Over the 2016/2017 academic year, a team from the Center for Education Design, Evaluation, and Research in the School of Education at the University of Michigan launched an effort to develop exactly such a platform. The approach leverages the power of information technologies to broach the constraints of time-and-place in bringing a diverse group of professionals into dialogue with each other, with leading researchers, and with leading innovators, all focused on building shared understanding of (and capabilities for) the collaborative work of educational innovation and improvement.

The centerpiece of this platform is the [*Leading Educational Innovation and Improvement*](#) MicroMasters program. This program has the University of Michigan collaborating with edX and a collection of leading institutions around the world to offer a new type of micro-credential that provides access to graduate-level educational experiences for learners around the globe.

Leading Educational Innovation and Improvement is a series of five massive open online courses. The courses range from four to six lessons, are self-paced, and are always open in order to support just-in-time learning experiences for busy educational professionals. These courses are:

- LeadEd501x: *Leading Ambitious Teaching and Learning*.
- LeadEd502x: *Designing and Leading Learning Systems*.
- LeadEd503x: *Improvement Science in Education*.
- LeadEd504x: *Case Studies in Continuous Educational Improvement*.
- LeadEd505x: *Leading Educational Innovation and Improvement Capstone*.

Three of the courses — LeadEd502x, LeadEd503x, and LeadEd504x — use a novel instructional design called Self-Direct/Community Supported Learning (detailed below). The design supports individual and community engagement via content presentation, enrichment opportunities, team practice exercises, and whole-class discussion, all complemented by the use of Twitter, LinkedIn, and other social media to further support dialogue and exchange among members of the *Leading Educational Innovation and Improvement* community.

As with all large-scale educational innovation and improvement, the construction of this platform was only possible through inter-professional collaboration that drew on the strengths of individuals and organizations with deep experience in innovation and improvement in education

and beyond, as well as the support of funders aiming to advance innovation and improvement in educational practice and research. Funders, collaborators, and contributors include:

- The Microsoft Corporation.
- The Spencer Foundation.
- The Center for Academic Innovation at the University of Michigan.
- The Center for Positive Organizations in the University of Michigan's Ross School of Business.
- The Carnegie Foundation for the Advancement of Teaching.
- LearnDBIR and the University of Colorado-Boulder's School of Education.
- The Success for All Foundation.
- The MIST project: Middle-School Mathematics and the Institutional Setting of Teaching.
- The National Center on Scaling Up Effective Schools.
- The National Implementation Research Network.
- Researchers from George Washington University, Northwestern University, and the University of Chicago Consortium for School Research.
- And over 30 practicing teachers, school leaders, and system leaders leading educational innovation and improvement in their own contexts.

Step 2: Launching the Program

The five courses comprising the *Leading Educational Innovation and Improvement* MicroMasters program launched between January and August 2017, with the full complement available world-wide beginning in the Fall semester of the 2017/2018 academic year.

Learners have been enrolling and working through the courses as they have launched. As of December, 2019, over 50,000 learners have engaged the program from 184 countries and regions. Roughly 20% of learners have been from the US, and 80% have been from other countries.

In October, 2017, the [US Embassy in the Philippines](#), with support from the US Department of State, launched an effort to support over 800 educators across the Philippines in completing LeadEd501x, *Leading Ambitious Teaching and Learning*, with the aim of cultivating new understandings of (and ambitions for) organizing schools to support students in pursuing authentic, inquiry-oriented instruction in large numbers of classrooms. As captured in a [video](#) and [blog](#) that they forwarded to us, participants reporting the opportunity to engage global community of educators committed to innovation and improvement.

Beyond the US and the Philippines, other countries with large concentrations of learners include (in alphabetical order) Australia, Brazil, Canada, China, Egypt, Mexico, Nigeria, and Pakistan.

Step 3: Catalyzing the Community

For the Winter semester of 2018, the University of Michigan's School of Education invited a diverse group of learners to join us in an effort to further catalyze the *Leading Educational Innovation and Improvement* community. The experience had 25 campus-based learners at the University of Michigan collaborating with nearly 100 online learners around the world to engage

Leading Educational Innovation and Improvement, to blog about the experience, and to produce a conference proposal and handbook chapter documenting the experience.

We are recreating that experience in the Winter semester of 2020. From January 2020 through April 2020, our goal is to support a cohort of students, practicing educators, researchers, and others from the University of Michigan and beyond in collaborating to engage the two courses that (a) function as the centerpiece of *Leading Educational Innovation and Improvement* MicroMasters and (b) introduce theory and practice that sit at the center of the “improvement movement” and the Gates-funded network initiative.

- LeadEd502x: *Designing and Leading Learning Systems*, which supports learners in developing a *theoretical foundation* for understanding novel, improvement-focused networks that support collaborative, continuous improvement aimed at addressing problems, needs, and opportunities in large number of schools.
- LeadEd503x: *Improvement Science in Education*, which supports learners in developing a *practical foundation* for organizing in new ways to address problems, needs, and opportunities in their own educational contexts.

The courses will be complemented by virtual office hours, blogging opportunities, and other learning opportunities aimed at enriching learners’ experiences. University of Michigan students will also engage in a campus-based, face-to-face seminar that further extends their experiences.

2. Aims for the Course

With that as the backstory, EDUC 551/639 has a grand aim: to serve as a mass “crash course” that leverages the *Leading Educational Innovation and Improvement* MicroMasters to introduce a broad, diverse group of educational professionals to cutting edge theory and practice that sit at the center of leading efforts to transform education in the US and around the world. Indeed, EDUC 551/639 is, fundamentally, about empowering learners:

- To create and to participate in new types of conversations about educational innovation and improvement as they play out across the contemporary educational policy and reform landscape.
- To accelerate their efforts to develop the expert knowledge and capabilities needed to lead large-scale educational innovation and improvement.

EDUC 551/639 has three specific aims:

- To support learners both in engaging the content of LeadEd502x and LeadEd503x and in imagining how they, themselves, can use these courses as resources in their own efforts to advance educational innovation and improvement.
- To create a critical mass of US learners that can serve as a source of support for learners in the US and around the world in engaging and completing LeadEd502x and LeadEd503x.

- To work together, as a community, to understand and leverage new information technologies to increase the pace and scale at which we develop capabilities to heed the call for excellence and equity in education, in the US and around the world

3. Commitments and Prerequisites

University of Michigan students who participate in EDUC 551/639 will serve as the nucleus of this effort, and as ambassadors of this experiment in catalyzing a world-wide community of professionals committed to engaging educational innovation and improvement as a field of study and a domain of practice.

See Appendix A and Appendix B for detailed syllabi for LeadEd502x and LeadEd503x as they appear on the edX platform. Note that all materials and resources for both courses are also provided on the edX platform.

Participation in EDUC 551/639 requires that students commit to progressing through both courses as designed and scheduled, at a pace of one online module per week. This level of commitment is critical to cultivating a critical mass of learners at the University of Michigan and beyond who are moving through LeadEd502x and LeadEd503x together, thus working as a community of educational professionals providing mutual support in engaging course content and completing course tasks.

As a prerequisite, I encourage students to register for (and briefly review) LeadEd501x – *Leading Ambitious Teaching and Learning* to familiarize themselves with key concepts and principles that will be taken up in LeadEd502x and LeadEd503x. In addition to introducing the MicroMasters program, this course establishes a normative conception of high quality instructional practice, along with normative conceptions of the types of schools, systems, and leaders needed to support high quality instructional practice at a large scale.

4. Weekly Schedule

EDUC 551/639 is designed to combine online and campus-based interactions. Every week, students are required to complete the online components of LeadEd502x and LeadEd503x. On Mondays, I will be available every week at our scheduled meeting time. Students are welcome to come to our room (4212 SEB) from 5:00 p.m. – 7:00 p.m. to ask questions, engage in discussion, and work on Team Practice exercises. (*Students are required to attend as indicated immediately below.*) During several other times windows (specific schedule TBD), I will conduct virtual office hours that will provide both campus-based and off-campus learners opportunities to ask questions.

The course calendar is as follows:

- Introduction
 - 01/06/2020: Launch Party ([School of Education & Pizza House](#))
 - 01/07/2020: LeadEd502x goes live on edX!

- LeadEd502x – *Designing and Leading Learning Systems*
 - 01/13/2020: Course Kickoff and Lesson 01 (campus meeting required)
 - 01/20/2020: Lesson 02 (campus meeting optional)
 - 01/27/2020: Lesson 03 (campus meeting required)
 - 02/03/2020: Lesson 04 (campus meeting optional)
 - 02/10/2020: Lesson 05 (campus meeting required)
 - 02/17/2020: Lesson 06 (campus meeting optional)
 - 02/24/2020: Complete outstanding work/compile portfolio (campus meeting required)
- Spring Break
 - 03/02/2020: No class.
- LeadEd503x – *Improvement Science in Education*
 - 03/09/2020: Course Kickoff and Lesson 01 (campus meeting required)
 - 03/16/2020: Lesson 02 (campus meeting optional)
 - 03/23/2020: Lesson 03 (campus meeting required)
 - 03/30/2020: Lesson 04 (campus meeting optional)
 - 04/06/2020: Lesson 05 (campus meeting required)
 - 04/13/2020: Lesson 06 (campus meeting optional)
 - 04/20/2020: Complete outstanding work/compile portfolio (campus meeting required)

5. Instructional Model: Self Directed/Community Supported Learning

The *Leading Educational Innovation and Improvement* MicroMasters is based on an instructional approach that we describe as Self Directed/Community Supported Learning.

Establishing students as self-directed learners and building a sense of community are important in any online course. Online learning has the advantage of providing learners with the flexibility and freedom to engage content at their own pace and convenience. It also has the advantage of bringing together learners with a wealth of insights far beyond what is available in a traditional classroom.

Self-Directed/Community-Supported Learning aims to capitalize on both of these advantages.

Lessons are intentionally designed to merge key elements of a classroom-based cooperative learning model with the flexibility and self-directedness of an online learning model. With that, Self-Directed/Community-Supported Learning aspires to standards of ambitious instruction detailed in the first course in the MicroMasters, LeadEd501x -- *Leading Ambitious Teaching and Learning*. Specifically, this instructional approach:

- Demands high-levels of socio-cognitive activity.
- Supports learners in meeting high-but-achievable expectations.
- Focuses on deeper learning and the acquisition of 21st century skills.

Every lesson in LeadEd502x and LeadEd503x includes the following standards components:

- Presentation
- Enrichment
- Team Practice
- Clarification
- Learning Check
- Celebrate Success
- Community Engagement

The **Presentation** component is a series of videos presenting the content for the lesson.

- The Presentation components include short lectures and interviews with leading experts in the field.
- To support active learning, these videos are accompanied by study guides that direct students to define key terms and concepts, create representations of essential content, pause-and-reflect on their own understandings, and raise questions for team discussion.

The **Enrichment** component extends the Presentation component.

- The Enrichment components have been carefully designed to enhance learning in the courses and to identify resources that students can use in their own practice.
- They also support different levels of interest and engagement among learners.
 - *Web explorations* are of general interest. They are designed to identify and make use of publicly available resources.
 - *References* direct learners to academic resources that (a) are typically available through public or university libraries or (b) can occasionally be found by searching the web.

The **Team Practice** component features a scenario-based teaching case in which learners collaborate as a leadership team to address an authentic leadership task.

- In each lesson, Team Practice begins with joining a group of colleagues who are actively working on that lesson at the same time.
- As a self-directed learner, Team Practice serves as the *first point* for clarifying content and resolving questions through discussion with colleagues.
- It requires that teams apply content from the lesson to address problems, needs, and opportunities that they are likely to encounter as practicing leaders.
- Each Team Practice activity yields products that learners can use (a) as resources in their own practice and (b) to represent what they are learning in this course to colleagues and employers.

The **Clarification** component provides learners an opportunity to seek clarification on lesson content (and on the use of the edX platform) that were not addressed during Team Practice, as well as to help other learners in clarifying their understandings.

- Clarification serves as *a second point* for clarifying content and resolving questions through discussion with colleagues.
- It provides an opportunity to engage the full course community in more deeply examining common issues and questions that arise in the lesson.
- Clarification is the space where course instructors are most “present” in monitoring, engaging, and providing support for your learning.

Learning Check is a reciprocal learning opportunity designed to support both *students* learning and *the design team’s* learning.

- The Learning Check component guides learners in reviewing their study guides, enrichment materials, and Team Practice artifacts to ensure that they have accomplished the aims of the lesson.
- It includes open-ended questions about understandings that they have developed over the lesson.
- It also includes open-ended questions asking them to identify strengths and weaknesses in their experiences in the lesson.
- We use students’ contributions in the Learning Check component as a primary resource for continuously improving each lesson over time.

The **Celebrate Success** component guides learners in taking stock of their many accomplishments. It also encourages learners to step out and have fun. The design team shares some of their favorite things to see and do after a hard day’s work, and the design team guides learners in sharing ways that they unwind, relax, and enjoy life.

The **Community Engagement** component provides opportunity to become a contributing member of the *Leading Educational Innovation and Improvement* MicroMasters community. This community includes learners from around the globe committed to advancing the work of educational innovation and improvement.

6. Expectations, Work Products, Grading, and Deadlines

Again, participation in EDUC 551/639 requires that students commit to progressing through the syllabus as designed and scheduled, at a pace of one online module per week. As ambassadors of this effort, the expectation is that University of Michigan students will engage the online work at a level befitting of a graduate student at a leading research university. Indeed, among the leadership skills that we will practice in this course is "stepping up:" that is, doing required work at the highest possible level -- not because there is an immediate reward, but because that is simply what leaders do.

At the completion of LeadEd502x and LeadEd503x, students will submit a portfolio that includes:

- The work required of them within each online lesson:
 - Study guides that are completed in the Presentation component.

- Team practice artifacts produced in the Team Practice component.
- One peer assessment in which a colleague in the class provides feedback on collegial interactions and on the preceding work products.
- A personal reflection on their experiences in the course.

Because it is an experimental class, student portfolios will be assessed using a “satisfactory/unsatisfactory” grading scheme. Per the Rackham Graduate School student handbook:

A grade of “S” indicates that the instructor considers the student to have performed satisfactorily at the graduate level, and is counted toward the credit hour requirements of the graduate program. A grade of “S” is considered to be a grade of “B” or better. A grade of “U” is assigned when a graduate student’s level of performance is not acceptable, and is not counted toward a student’s required credit hours. Grades of “S” and “U” are not converted into numbers, and are not factored into the Grade Point Average or Michigan Honors Points.

Due dates for the portfolios are as follows:

- LeadEd502x Portfolio: Wednesday, 02/26/2020
- LeadEd503x Portfolio: Wednesday, 04/22/2020

Importantly, please note the following:

- *Unless arrangements are made in advance, late work risks receiving no credit.*
- As such, stay in close communication regarding any issues that complicate participating in the online lessons each week or that complicate meeting due dates for the portfolios. Email is preferred. Text and cell phone are fine, too.

7. MichiganX Certificates

Learners who successfully complete all requirements for LeadEd502x and LeadEd503x will receive MichiganX certificates for both courses, representing successful completion of two of the five courses comprising the School of Education’s *Leading Educational Innovation and Improvement* MicroMasters program.

With the University of Michigan as a collaborator in an international effort among leading universities to advance the MicroMasters concept, the hope is that these course certificates (and the MichiganX *Leading Educational Innovation and Improvement* MicroMasters certificate) will serve as micro-credentials that gain currency as more schools, districts, and systems engage in the work of large-scale, network-based continuous improvement, and as our learners become leaders and change agents in the field.

8. Correspondence, Office Hours, and Feedback

All course communications will be sent through your UM email address and your edX account. You are responsible for everything sent to these accounts. You are expected to check your UM email daily. If you use another email address (e.g., to register on edX), you can configure your UM account to forward all emails to that address.

Individual office hours are by appointment, and be scheduled as face-to-face meetings, phone calls, or online conference calls.

On-going feedback is critical to the success of this effort. This course is an experiment in collaborating with University of Michigan students in open-ended scholarship and inquiry. The goal is to make the course rigorous, reasonable, and collegial. Throughout the course, please share your comments and feedback about the design of the course, the work load, and our collaborative activities.

9. University Policies

All university policies hold, *including (and especially) those pertaining to academic integrity*. See the following for the UM student handbook, which details students' rights and responsibilities: http://www.rackham.umich.edu/policies/academic_policies/.

Please contact me immediately regarding any necessary accommodations due to religious holidays, disabilities, or any other special needs. It is UM policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have disabilities that may affect their ability to participate in course activities or to meet certain requirements. Students with special needs are welcome to speak with me but are also encouraged to contact the Office for Students with Disabilities: web -- <http://ssd.umich.edu/>; phone -- (734) 763-3000; email -- sswoffice@umich.edu.

Appendix A: LeadEd502x -- *Designing and Leading Learning Systems*

Course Overview

The goals of *Designing and Leading Learning Systems* are:

- To develop learners’ understandings of educational innovation and improvement as a process of collaborative, inter-organizational learning – and to develop their capabilities to lead others to this same understanding.
- To inspire learners to “think big”, and to recognize the possibility to organize new types of systems to support this type of collaborative learning.
- To cultivate learners’ sense of agency, by examining ways that diverse teams of leaders collaborate in designing and leading learning systems with potential to improve educational opportunities and outcomes for large numbers of students.

Course Context and Rationale

Many impassioned educational professionals and advocates strive to make a big difference in educational opportunities and outcomes for many students. However, few have highly developed understandings of what the work of educational innovation and improvement actually looks like *in principle*, and fewer yet have highly developed understandings of what this work looks like *in practice*.

Absent common conceptions of the work, many aspiring educational innovators struggle to collaborate in meaningful ways with colleagues to effect change at a large scale. Moreover, in negotiating common ground on which to work, many draw on popular conceptions of innovation that run counter to what researchers are learning about innovation and improvement in the education sector.

Thus, again, the goals of *Designing and Leading Learning Systems* include building shared conceptions of the work of educational innovation and improvement *in principle* and *in practice*, heightening ambitions for making large-scale change in education, and cultivating the agency that will support learners in beginning to engage this work.

Course Faculty

The course is led by Donald J. Peurach, Associate Professor, School of Education, University of Michigan.

Course Structure

The course is structured as follows:

- **Course Kick Off:** Introduces the MicroMasters program and this course, and details “Self Directed/Community Supported Learning” as the lesson structure/pedagogical design underlying the course.
- **Part 1: Designing and Leading Learning Systems in Principle**
 - Lesson 1: Imagining and Framing Innovation: Examines (a) popular conceptions of educational innovation and (b) “designing and leading learning systems” as an alternative.

- Lesson 2: Framing Innovation – Reason and Rationality: Anchors notions of “designing and leading learning systems” in theory and research on educational innovation and improvement.
- Lesson 3: Framing Innovation – Metaphor and Analogy: Further anchors notions of “designing and leading learning systems” by analogizing learning systems to professional networks.
- **Part 2: Designing and Leading Learning Systems in Practice**
 - Lesson 4: Case Study – Innovating in Elementary Reading: Examines designing and leading learning systems as enacted in Success for All (SFA), a large-scale enterprise focused on improving K-6 reading.
 - Lesson 5: Case Study – Innovating in Middle School Mathematics: Examines designing and leading learning systems as enacted in Middle-School Mathematics and the Institutional Setting of Teaching (MIST), an enterprise that has a university-based hub, districts, and schools collaborating in a research-practice partnership.
 - Lesson 6: Case Study – Innovating in High School Social/Emotional Supports: Examines designing and leading learning systems as enacted in research-practice partnerships managed through the National Center on Scaling Up Effective Schools (NCSU).
- **Closing Thoughts:** Looks back on LeadEd502x (*Designing and Leading Learning Systems*) and forward to LeadEd503x (*Improvement Science in Education*).

Course Outcomes

After finishing this course, learners will be able to:

- Work with colleagues to frame innovation in terms of distributed, collaborative learning.
- Explain what this work looks like when enacted among schools, districts, and partner organizations.
- Explain the many leadership roles essential to designing and leading learning systems.
- Use this course (and authentic artifacts generated in this course) as resources for introducing colleagues to the work of designing and leading learning systems.

Expectations for Learners

Learners are expected (a) to review each component of every lesson and (b) to complete the Study Guides and Team Practice exercises. This course requires the learner’s active reflection on the materials presented and engagement in the assigned tasks within each module. Some of the activities will take only a few minutes; others will require more extended engagement.

Grading Policy

The grading policy for this course is designed to capture key learning. Completion of all the assignments and tasks in all lessons will result in a passing grade. Viewing of all components of the lessons will be tracked through the learning platform to ensure that not only were required tasks completed but that all materials were reviewed by learners.

Appendix B: LeadEd503x -- *Improvement Science in Education*

Course Overview

The goals of *Improvement Science in Education* are:

- To develop conceptual understanding of the principles and practices of improvement science.
- To develop the agency and capabilities to enact principles and practices of improvement science to address persistent problems of practice in educational contexts.
- To develop leadership capabilities to frame the work of improvement, develop technical capabilities among colleagues, and cultivate a social/relational infrastructure supporting continuous, collaborative learning and improvement.

Course Context and Rationale

Pursuing new visions for classroom and schools requires designing and leading novel types of learning systems to support collaborative, continuous improvement among diverse teams of educational professionals. Improvement science is an essential resource that supports leaders in doing exactly that.

With roots in industry and health care, improvement science is a rigorous approach to educational innovation and improvement that supports teachers, leaders, and researchers in collaborating to solve specific problems of practice. Improvement science brings discipline and methods to:

- Analyzing problems and systems
- Designing solutions
- Measuring processes and outcomes
- Rapidly refining solutions through iterative cycles
- Spreading and adapting change ideas to new contexts

For teachers, school leaders, and system leaders, improvement science moves educational innovation out of the realm of “fad” and into the realm of research-based, evidence-driven continuous improvement, with the goal of improving practice and outcomes.

Course Faculty

The course is led by:

- Anthony Bryk, President, Carnegie Foundation for the Advancement of Teaching.
- Alicia Grunow, Senior Fellow, Improvement Science, Carnegie Foundation for the Advancement of Teaching
- Amanda Meyer, Associate, Improvement Science, Carnegie Foundation for the Advancement of Teaching.
- Donald J. Peurach, Associate Professor, School of Education, University of Michigan.

Course Structure

The course is structured as follows:

- Course Kick Off: Introduces the MicroMasters program and this course, and details “Self Directed/Community Supported Learning” as the lesson structure/pedagogical design underlying the course.
- Lesson 1 – Introduction to Improvement Science: Introduces the intellectual history of the Six Core Principles of Improvement Science, and examines their use in constructing an improvement narrative that frames shared work, motivates participation, and inspires hopefulness
- Lesson 2 – Understanding the Problem and the System that Produces It: Introduces the importance of starting with the problem to solve, and explores the use of various improvement tools to analyze problems and their causes.
- Lesson 3 -- Focusing Collective Efforts Around a Shared Theory of Improvement: Examines the development of improvement aims and the use of shared theories that articulate how those aims may be reached.
- Lesson 4 -- Testing Changes and Building Evidence: Introduces iterative plan-do-study-act cycles and measurement for improvement to support the rapid enactment, evaluation, and revisions of change ideas.
- Lesson 5 – Achieving Quality at Scale: Frames the journey to achieving measurable results at scale as a sequence of carefully orchestrated collective learning activities, and motivates the importance of attending to the human side of change.
- Lesson 6 – Putting It All Together: Integrates the major principles and practices covered in this course and invites learners to charter improvement initiatives in their own professional contexts.
- Closing Thoughts: Looks back on LeadEd503x (*Improvement Science in Education*) and forward to LeadEd504x (*Case Studies in Continuous Educational Improvement*).

Course Outcomes

After finishing this course, learners will be able to:

- Advance an improvement narrative anchored in principles and practices of improvement science.
- Use this course (and artifacts generated in this course) as resources for introducing colleagues to the principles and practices of improvement science.
- Charter an improvement project in their own professional contexts.

Expectations for Learners

Learners are expected (a) to review each component of every lesson and (b) to complete the Study Guides and Team Practice exercises. This course requires the learner’s active reflection on the materials presented and engagement in the assigned tasks within each module. Some of the activities will take only a few minutes; others will require more extended engagement.

Grading Policy

The grading policy for this course is designed to capture key learning. Completion of all the assignments and tasks in all lessons will result in a passing grade. Viewing of all components of the lessons will be tracked through the learning platform to ensure that not only were required tasks completed but that all materials were reviewed by learners.