Adding "Value" to Evaluation in Educational Settings: Opportunities for Evolving Roles of Evaluators in an Education Research and Development Paradigm

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Moving away from "external program evaluator" paradigm to "improving the quality, coherence, and pace of knowledge development"

Opportunities for evaluators to support:
- understanding &articulating nature of innovation in R&D cycle
- supporting dissemination
- enhancing systemic strategic planning and continuous improvement
- working collaboratively with project staff using different types of evaluation techniques

Common Guidelines for Education Research and Development

A Report from the Institute of Education Sciences, U.S. Department of Education and the National Science Foundation

August 2013

ies INSTITUTE OF EDUCATION SCIENCES

Front-end Support for Evaluation of Education Innovations:
How Can Evaluators Contribute as Partners in the Pursuit of Funding?

Kirk Knestis, PhD – CEO

Hezel Associates – Syracuse, NY

Evaluation 2014

Denver, Colorado

The Common Guidelines for Ed R&D

US ED and NSF – *Shared understanding of the roles of types of research in generating evidence*

- ✓ Context is grant-funded research and development (R&D) in STEM education
- ✓ Focus is on development of "innovations"
- ✓ Result is a typology detailing six research purposes
- ✓ Intention is to develop **particular models** and contribute to **collective understandings**

"The NSF Conundrum"

Historically, distinctions between "research" and "evaluation" have been unclear, as…

- "Principal Investigators" limited their work to delivery of the program or strategy
- "External Evaluators" became *de facto* researchers, testing the PI's innovation
- Evaluation budgets were unofficially limited
- Evaluators were overworked and lost money
- Research was not of high quality

The Guidelines – Potential Clarity

Research

Structured study of the intervention or strategy, the *innovation*

Foundational
Early-Stage/Exploratory
Design & Development
Efficacy
Effectiveness
Scale-up

Evaluation

Study of the implementation and impact of the research

Program Evaluation
External Review
Monitoring
Performance Reporting

A new way to clarify distinctions and functions?

The Guidelines – Potential Clarity

Research ➡️ **Two Purposes**

Structured study of the
intervention or strategy,
the *innovation*

Foundational
Early-Stage/Exploratory
Design & Development
Efficacy
Effectiveness
Scale-up

**1. Iteratively improve
the innovation in
question**

**2. Contribution to
broader understandings
about education**

Most funders expect research to do both!

What can evaluators contribute?

Perspective – *Evaluators are perfectly positioned to inform planning and proposal development*

- Clarify research vs. evaluation

- Define appropriate research type

- Explicate theory of action

...above and beyond simply providing evaluation content for proposals

Clarify Research vs. Evaluation

Use the Common Guidelines to structure conversation about functions requiring data

- Review requirements of the RFP
- Translate requirements into shared understandings
- Explicate terms and concepts
- Differentiate roles and responsibilities

Define the Research Type

Evaluators should be equipped to facilitate conversations to achieve consensus on…

- "Maturity" of the innovation being developed
- Purpose of the research
- State and influence of existing research
- Future research agenda and goals
- Required qualifications for research and evaluation functions

Explicate the Theory of Action

All types of research move from a clear theory of action or logic; evaluators can help…

- Facilitate logic modeling

- Delineate elements of the innovation

- Define outcomes and relationships

- Formulate specific hypotheses or bases for testing

- Define and describe the "theoretical and empirical basis" for the proposed research

Hang onto your questions…

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Watch the AEA site for slides or email to request more info

Reference: Institute of Education Sciences, U.S. Department of Education and the National Science Foundation. (2013). Common Guidelines for Education Research and Development. Retrieved from http://www.nsf.gov/pubs/2013/nsf13126/nsf13126.pdf

Support for Dissemination :
A Role for Evaluators

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Expectation for Dissemination Plan in Proposals

NIH Science Education Partnership Award (SEPA)

. . . specific plan must be provided to disseminate nationally any findings. . .via web postings, presentations at scientific meetings, workshops. . . reports, publications, project websites, social media and other dissemination or marketing venues. . . .All SEPA proposals must include a project website development plan . . .

NSF Discovery Research K-12 Solicitation

A proposal must include a creative communication strategy for reaching a broad audience for the findings of the project, including, where appropriate, scholars, practitioners, policymakers and public audiences. While the potential results of the proposed research are expected to be of sufficient significance to merit peer-reviewed and broader publication, approaches that reach broader audiences are strongly encouraged. Proposals should identify the key elements of a communication plan. . . .

Typical Dissemination Plan

...dissemination mechanism will ensure materials, support, and research findings are accessible to teachers and the general public. The team will establish a **project website** that will host curriculum materials and other information about the project. We will present materials at **science and science education conferences** and via **publications in peer-reviewed journals**. We will **strengthen existing collaborations** and seek partnerships to ensure materials are used in a range of settings.

Long History of Educational Dissemination Efforts
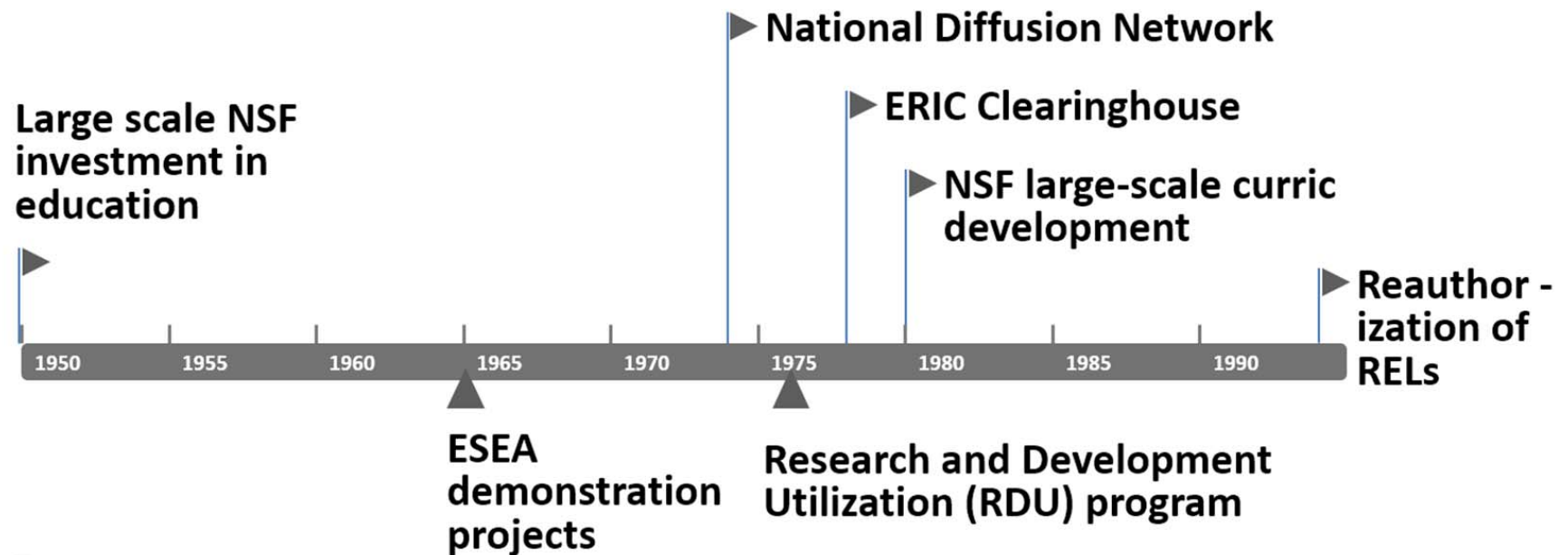
Dissemination is More than a Journal Article

Knowledge Dissemination:

transfer of knowledge within and across settings, with the expectation that the knowledge will be "used"

Increased awareness ➡ understanding ➡ action

Hutchinson, J. R. and Huberman, M. (1994). Knowledge Dissemination and Use in Science and Mathematics Education: A Literature Review. Journal of Science Education and Technology, Vol. 3(1).

Incorporating Dissemination into Project Planning

Review effective dissemination methods
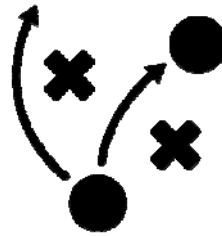
Make a Plan

Evaluate impact
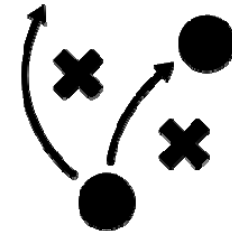
Review Effective Dissemination Strategies

- Attending to knowledge disavowal - tendency to preserve ongoing norms

- Attending to schools' systemic issues

- Matching product / program demands with teachers' core values and beliefs

Make a Plan

Our Project is:

Our Project will disseminate the following:

Shared vision for dissemination

	Stakeholder Group	Message	Time-line	Person Respon-sible	Cost	Method	Criteria for Success
Awareness		**Different message for each stakeholder group based on level of dissemination**		**Plan for timing, staffing, cost**			**Methods must meet stakeholder needs**
Understanding							
Action							**Plan to measure success of implementation**
Implement							
Support							

Sample Dissemination Plan

Table 1 Tools and measurement of success of the dissemination activities

Mechanisms/tools	Measurements of success
Academic and Scientific community	
Web site	No. of visitors and trends (Visits for all visitors; Absolute Unique Visitors; Pageviews; Map Overlay; New vs. Returning; Time on Site for all visitors, Traffic Sources Overview)
Working Papers	No. of working papers and No. of downloads
Publications in peer-reviewed journals	No. of publications and their citation, impact factor of journals
Presentations in Scientific Conference	No. of presentations
Final Conference	No. of participants from the academic and scientific community at project events, feedback collected
Policy makers	
Web site	No. of visitors and trends (Visits for all visitors; Absolute Unique Visitors; Pageviews; Map Overlay; New vs. Returning; Time on Site for all visitors, Traffic Sources Overview)
Project presentation	No. of downloads of dissemination products

Typical Methods of Dissemination

- Report
- Memo
- White paper
- Monograph
- Brief
- Email
- Newsletter
- Website

- Conference presentation
- Workshop
- Roadshow
- Media
- Editorial

Dissemination for Action

Try new methods and tools:

Video

Podcast

Slide Share

Storify

Pearltrees

Use the power of your network to disseminate your work:

Link with networks

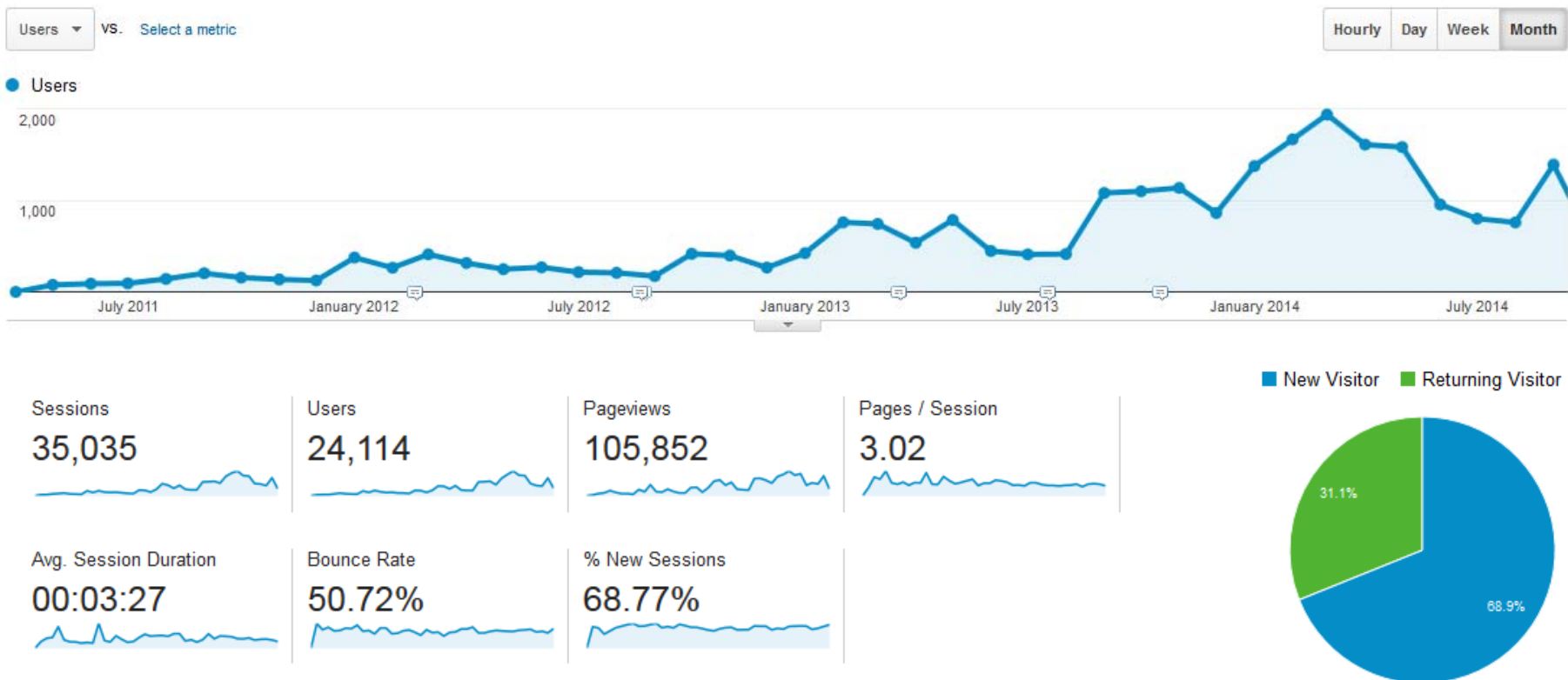Alliances with other projects

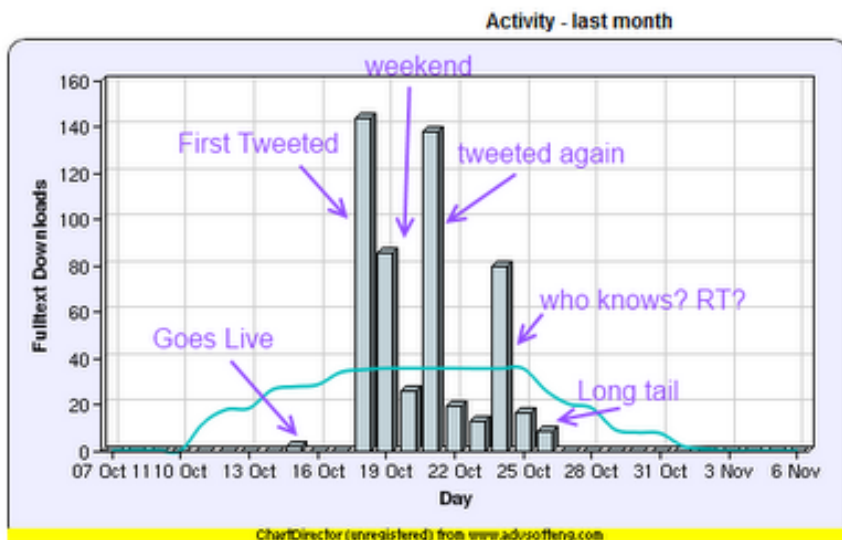Link with professional associations

Present your paper at a conference:

Gain 17-26 downloads

Use Website Analytics to Monitor Dissemination

Blog and Tweet : Increase Downloads
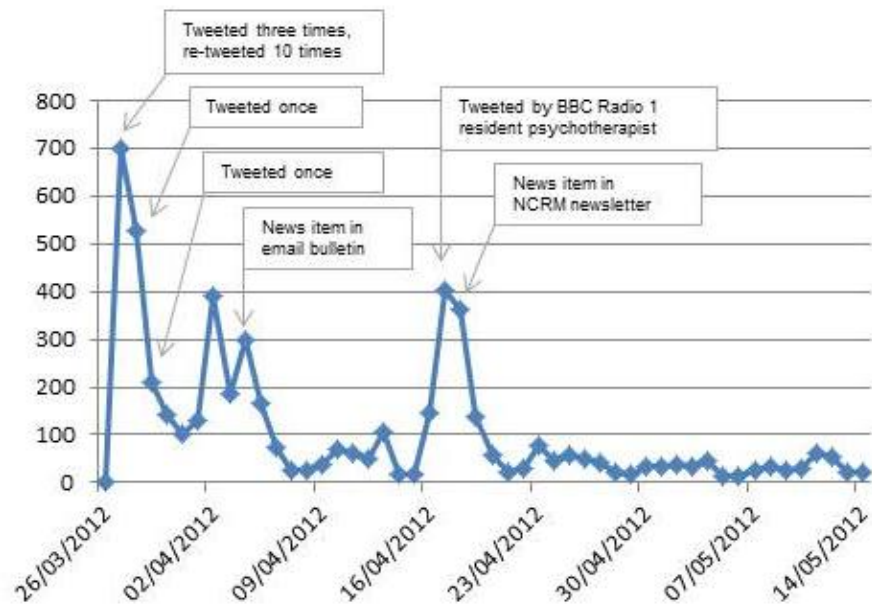
Activity - last month

Melissa Terras:

. . .the correlation between talking about my research online and the spike in downloads of my papers

http://journalofdigitalhumanities.org/1-3/the-impact-of-social-media-on-the-dissemination-of-research-by-melissa-terras/

Track Effectiveness of Publicity Activities

Demonstrate short and long-term impacts of research.

http://blogs.lse.ac.uk/impactofsocialsciences/2012/05/18/who-gives-a-tweet-860-downloads/

Tweet about your work

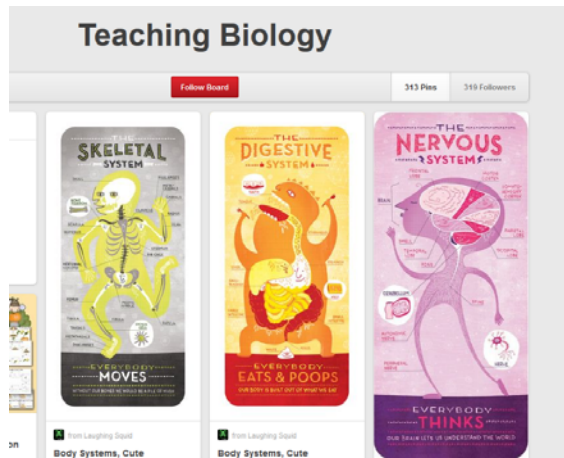Increase downloads X11

Other Methods – No Metrics Yet Identified

Facebook

LinkedIn

Pinterest

Example of Dissemination Impact

Interesting and innovative
ways that other industries are
sharing and measuring the
impact of dissemination
efforts

http://journalauthors.tandf.co.uk/pdfs/socialmedia-infographic.pdf

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Emerging Evaluation Approaches for Innovations in STEM projects

AEA Conference 2014 – Panel Session

Jeni Corn, Ph.D., jocorn@ncsu.edu

Friday Institute

- Not a "think tank" but a "do tank" at the College of Education at NC State University where we
  - conduct research
  - develop educational resources
  - provide professional development programs for educators
  - advocate to improve teaching and learning
  - help inform policy-making.

Friday Institute Mission

Advancing education through innovation in teaching, learning and leadership, we bring together students, teachers, researchers, policy-makers, educational professionals, and other community members to foster collaborations in improving education.

FI Eval Team

**Staff**: 2 Leads, 10 Researchers, 4 GRAs, 4 CED Faculty

Projects: ~22 (...if RttT counts as 1)

Awards: Current $6.3M; Proposals $5.3M

FI Eval Team Description

The Friday Institute Evaluation & Policy Team conducts large-scale research and evaluation studies of innovations in school, districts, and community college settings in North Carolina that inform state and local decisions about educational policies, programs, and funding.

FI Eval Team Drivers
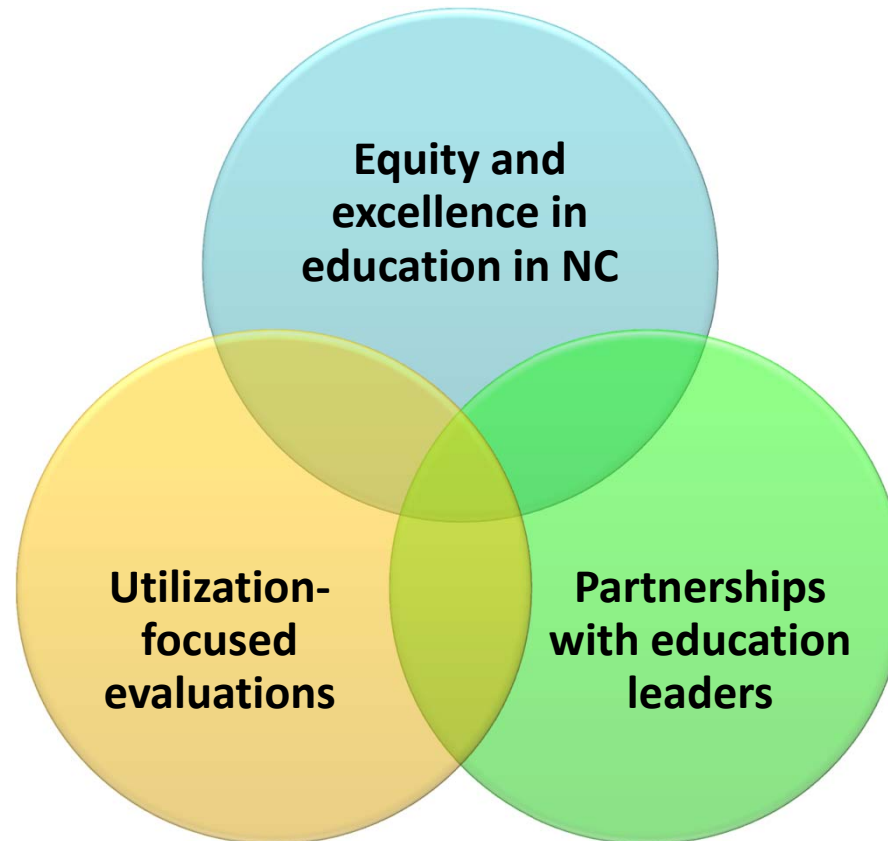
Traditional Evaluation

Formative: Feedback on implementation of program strategies. Summative: Judgment about the impact of the program.

Partners/Projects

- NCSU Faculty NSF Research
- USED/NCDPI Race to the Top
- NCDPI Digital Learning
- Golden LEAF/LEAs 1:1
- NC Virtual Public School
- Workforce Development

Traditional Evaluation

Lessons Learned

- Utilization-focused
- Pragmatic
- Collaborative
- Relationship-based
- Aligned with client needs/timelines

…so we wanted to explore more innovative approaches

Innovative Approaches for Evaluation of STEM Initiatives in NC

- Scale Evaluation
- Developmental Evaluation
- Capacity Building Evaluation

Scale Evaluation

"Scaling up" involves adapting an innovation that has been successful in one setting to effective use in a wide range of settings (Dede, 2005), so scale evaluation is measuring to what extent and how well that happens.
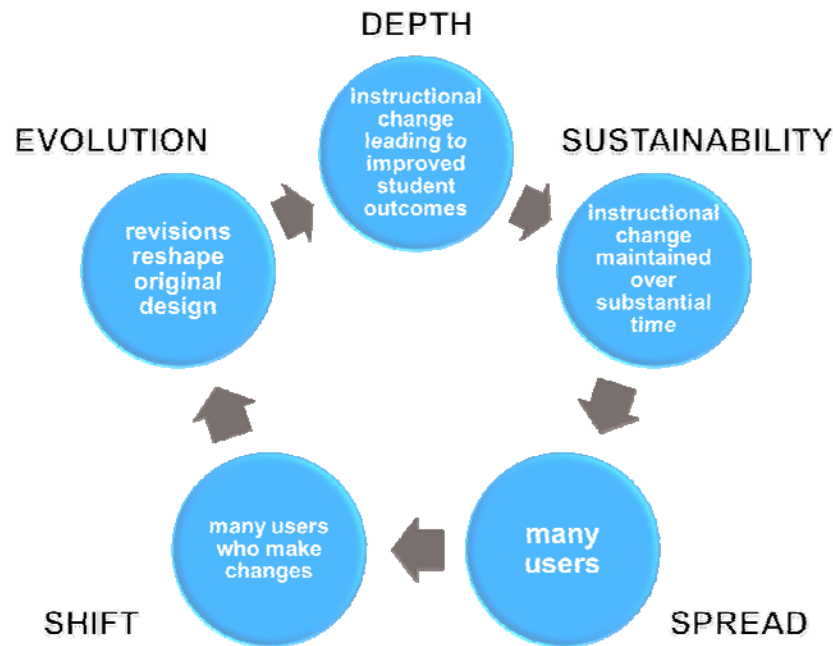
Partners/Projects

- NSF MSP *Students Discover*: NCSU FI, Biological Sciences, The Science House, Kenan Fellows; Museum of Natural Sciences; LEAs
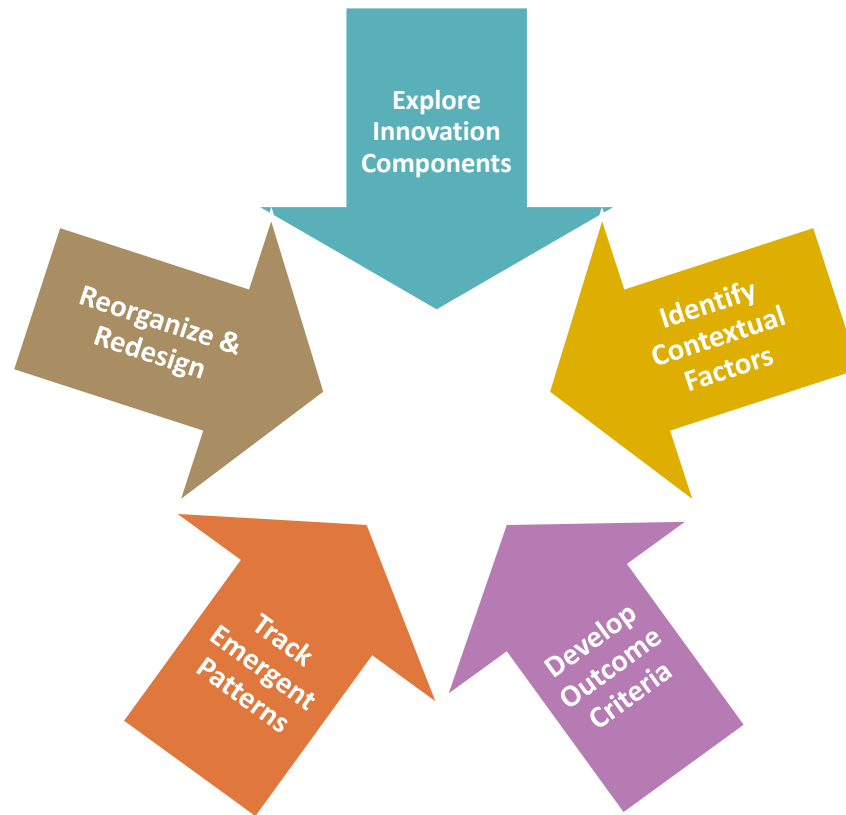
Scale Evaluation

Lessons Learned

- Really resonates with educators and policy-makers
- Identifying the innovation can be difficult
- Innovations need to be studied in nested learning contexts
- Works well with a design-based implementation approach
- Mixed methods with qualitative emphasis

Developmental Evaluation

Design-based evaluation with continuous feedback on emerging program goals and outcomes.

Explore Innovation Components

Identify Contextual Factors

Reorganize & Redesign

Track Emergent Patterns

Develop Outcome Criteria

Partners/Projects

- NCSU Computer Science Dept and Hunt Library

- NCSU The Science House STEM Outreach

- Kenan Fellows STEM Teacher Internship Program

Developmental Evaluation

Lessons Learned

- Evaluation for strategic planning
- Co-creating the evaluation
- Requires a lot of trust
- For defining or redefining the model
- Emerging contexts

Capacity Building Evaluation

Research-based framework for building evaluation capacity for practitioners, funders, and policy makers to support utilization-focused evaluation efforts.

Foundation Drivers for Change in Schools CAPE Capacity to Apply Project Evaluation *Desired change is the adoption of formative project evaluation practices* (Fullan, 2005, p. 5)	1. Engaging Moral Purpose Engaging teachers' beliefs, the need or motivation to undertake formative project evaluation (Fullan, 2005)		
	2. Understanding the Change Process Engendering ownership of evaluation work (Fullan, 2005, pp. 7-10; Hall & Hord, 1984; Horsley & Loucks-Horsley, 1998; Rogers, 1995; Waters, Marzano, & McNulty, 2003)		
	3. Building Capacity Collective and ongoing policies, strategies, resources, and other actions to increase organizational power to implement project evaluation. (Newmann, King, & Young, 2000, as cited in Fullan, 2005, p. 40)	A. Knowledge, Skills, and Attitudes of Individuals (Guskey, 1986, 2000)	
		B. Resources – planning documents, instruments, management tools, and time	
		Shared Identity Motivation to work together on evaluation (Fullan, 2005)	C. Professional Community (Wenger, McDermott, & Snyder, 2002)
			D. Program Coherence (Newmann, Smith, Allensworth, & Bryk, 2001)
			E. Shared Leadership (Lambert, 1998, 2002)

Partners/Projects

- NSF MISO – NCSU STEM Outreach

- GLF District STEM Programs

- Mid-Skills Advanced Manufacturing Programs at NCCCS

Capacity Building Evaluation

Lessons Learned

- Builds trust
- Facilitates systemic evaluation
- Common instruments help build a community of practice
- Flows through common evaluation process: logic models→evaluation questions→data sources→data analysis→interpretation

Stay Tuned…

- Just starting this work in earnest
- Have secured funding for all of these approaches at different levels
- Scale evaluation seems to be the one that resonates most

Using Collaborative Evaluation Approaches to "Assess the Impact of Education Interventions and Strategies"

Rita O'Sullivan

Evaluation, Assessment, & Policy Connections

School of Education, University of North Carolina at Chapel Hill

American Evaluation Association

Denver, CO - October 2014

Joint Committee Types of Research

- Foundational
- Early Stage or Exploratory

- Efficacy
- Effectiveness
- Scale-Up

NSF-Funded 3-Year Mathematics Program

Purpose of the program was to explore how to develop a professional development program for teachers for a specific instructional approach.
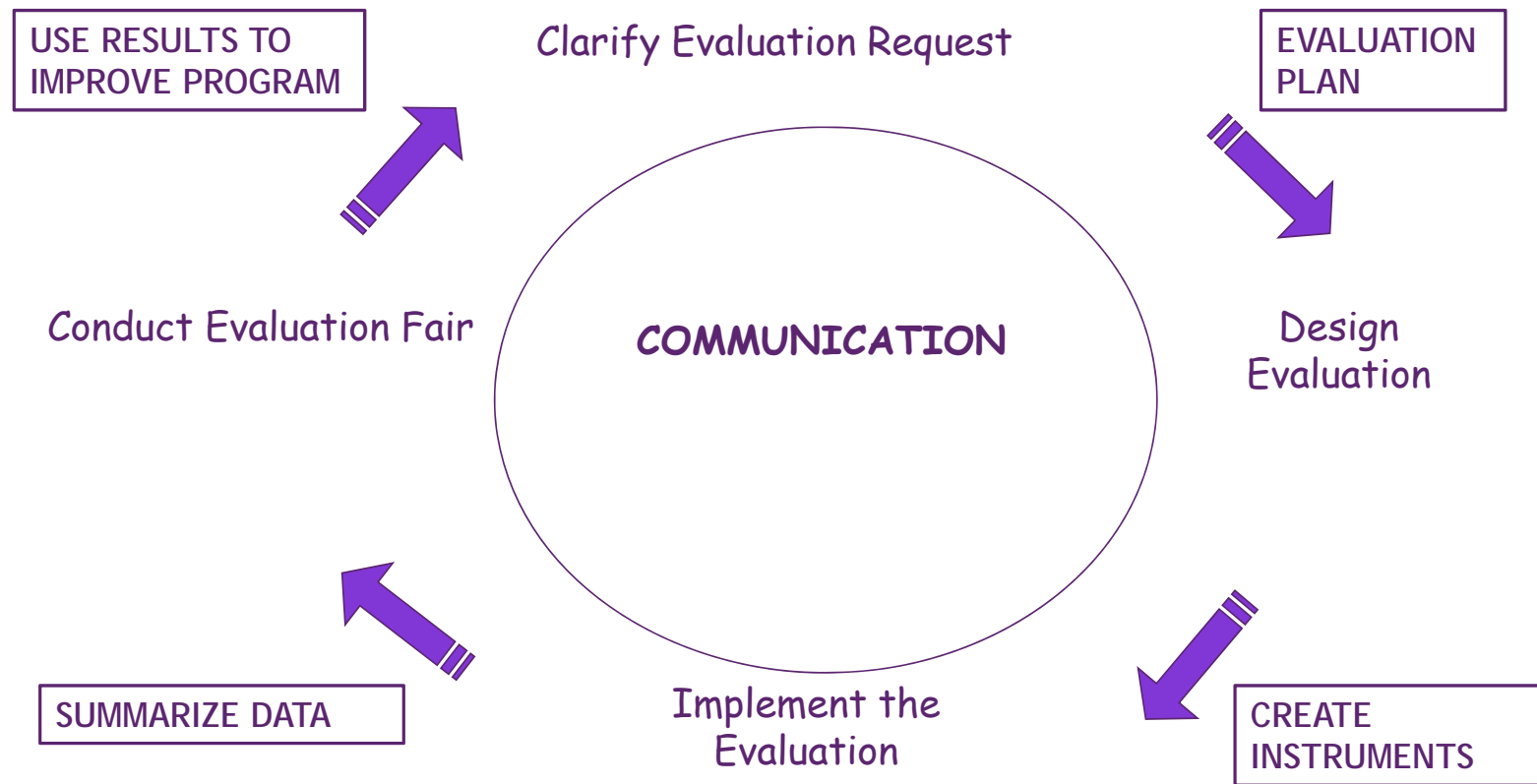
- Year 1:
  - ✦ Selected 20 Cohort 1 Teachers - Same School
- Year 2:
  - ✦ Worked with 15 Cohort 2 Teachers – Same School
- Year 3: Studied Results
- Year 4: (no cost extension)
  - ✦ Identified 40 Teachers from Different Schools in one LEA

Collaborative Evaluation

is an approach that engages program stakeholders actively in the evaluation process. When stakeholders collaborate with evaluators, their understanding increases and the utility of the evaluation is often enhanced.

(O'Sullivan, 2004; O'Sullivan & Rodriguez Campos, 2012)

Collaborative Evaluation Cycle

USE RESULTS TO IMPROVE PROGRAM

Clarify Evaluation Request

EVALUATION PLAN

Conduct Evaluation Fair

COMMUNICATION

Design Evaluation

SUMMARIZE DATA

Implement the Evaluation

CREATE INSTRUMENTS

Initial Evaluation Design:

- Years 1, 2, and 3:

  - ✦ Survey Teachers about Summer Training
  - ✦ Attend Staff & Advisory Committee Meetings
  - ✦ End of Year Outcome Survey

Efficacy:

- Developing Intensive Summer Professional Development

+ Survey results of Summer Training led to decision to conduct a Focus Group to help interpret findings

Effectiveness:

- Determining if Professional Development Led to Changes in Teacher Behaviors & Attitudes

- End of Year Teacher survey results led to decision to use Theory of Action sessions to refine program outcomes

Scale Up:

- Year 4 Replicating Approach with teachers at different schools within the same school district

- ✦ End of Year Teacher survey combined with focus group to determine areas of consensus around outcomes

Collaborative Evaluation Advantages

- Collaborative evaluation requires evaluators to be responsive to program needs, so adapting to changing paradigms is natural.

- Flexibility of the collaborative evaluation approach allowed for changes in the evaluation design as the need emerged.

- Project staff were able to use the external evaluator in different roles that helped them with their efficac, effectiveness, and scale-up research efforts.

References

- O'Sullivan, R. G. (2004.) *Practicing Evaluation: A Collaborative Approach*

- O'Sullivan, R. G., & Rodriguez-Campos, L. (Eds.) (2012). *Evaluation and Program Planning: Collaborative Evaluation Special Issue, 35*.