Broadening Participation and Increasing the Competitiveness of Minority-Serving Institutions in the NSF Robert Noyce Teacher Scholarship Program

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DR. JOSEPHINE D. DAVIS, CONSULTANT
PROFESSOR EMERITA
Fort Valley State University
Fort Valley, GA
davisj@fvsu.edu
PROJECT ASSESSMENT AND EVALUATION

Strategic Approach: The Stephen Covey Model

START WITH THE END IN VIEW !!!
The End in View
High Needs Schools

Critical Conversations with Appropriate School/District Officials

- Staffing Needs
- District Access Policies
- Priorities
- Assessment Profiles

MUTUALITY OF BENEFITS
PI Knowledge:
What: NSF Solicitation 17-541

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<td>Master Teaching Fellowships</td>
<td>Preparation, Recruitment and Retention of STEM Teachers</td>
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<td>(exemplary, experienced STEM teachers)</td>
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Robert Noyce Teacher Scholarship Program
Who Noyce Targets:

STEM Teachers

- Recruitment
- Preparation
- Retention
- High Needs
The Noyce High Needs Expectations

- **50% Students Below Poverty Level**
- **15% High Teacher Turnover Rate**
- **35% Not Teaching in Field of Academic Preparation**
What Noyce Provides Participants

- SCHOLARSHIPS
  - UG in T1

- FELLOWSHIPS
  - TF, MTF
  - T 2 & 3

- STIPENDS
  - Prof T1
ASSESSMENT

The use of a variety of methods or tools used to evaluate, measure and document readiness to learn, progress made in learning, skills acquisition or the educational needs of learners.

Assessment

**Assessment** – The systematic determination of the results of an effort or intervention.

**Assessment** – Raises the “If/When” Questions

- If I have addressed the problem/issue in a well-reasoned, well-organized, rationally sound way...
  
  progress towards planned results...

- **When** will I have addressed the problem/issue? Is there a mechanism to assess success? Are the resources adequate? ...timely decision making....
EVALUATION

The periodic process of gathering data and analyzing or ordering it in such a way so as to determine how effectively planned activities have been carried out.

- **Focus**
  - What you plan to do and how
  - Who will do it
Evaluation

- **Evaluation** – The systematic determination of the worth of an effort or intervention.

- **Evaluation** – Raises the “How Well and What” Questions – The Impact

- **How well** have I addressed the problem/issue? **Efficiency, Effectiveness and Relevance**

- **What** determining factors contributed to resolving the problem/issue? **Impact and Sustainability**
Assessment vs Evaluation

**Assessment**

- If I have addressed the problem/issue in a well-reasoned, well-organized, rationally sound way-
  .....progress towards planned results...
- **When** will I have addressed the problem/issue? Is there a mechanism to assess success? Are the resources adequate? ...timely decision making....

**Vs**

**Evaluation**

- **How well** have I addressed the problem/issue? **Efficiency, Effectiveness and Relevance**
- **What** determining factors contributed to resolving the problem/issue? **Impact and Sustainability**
Your Evaluation Plan (Timeline & Benchmarks)

Focus: **Recruitment, Preparation, Retention (Induction)**

Includes: The Assessment and Evaluation of:

- **The Participants** - Assumptions Made
- **The Intervention** – Efficiency, Effectiveness
- **The Outcomes** – Immediate, Intermediate, and Final
  
  Program implementation objectives (stated in general and then measurable terms)
Tracks 1, 2 or 3 Robert Noyce Projects

ASSESSMENTS AND EVALUATIONS BUILD ON THE LOGIC MODEL

Formative Evaluation

Resources (Inputs) → Activities → Outputs → Outcomes

Ongoing Assessments

Summative Evaluation

Impact

Summative Evaluation
Evaluation Alternative Considerations
Use An
Advisory Board and/or Internal/External Evaluator
Internal and External Evaluators

- **External Evaluator** – An individual, research institute, or consulting firm used as the evaluation team leader and supported by project personnel

- **Internal Evaluator** – Individual from within the institution who may or may not work with an external consultant as project evaluator and supported by project personnel
The Assessment/Evaluation Cycle

- **Assess relevance of Plan to Goals & Objectives**
- **Methodology Data Collection**
- **Assess data results to stated goals and objectives**
- **Addressing the Problem Situation**
- **Framing the Results**

**Summative Evaluation**

**Formative Evaluation**
Rationale – Stakeholder Accountability

Assessment
- Goals
- Objectives
- Intervention
- Results

Evaluation
- Impacts
- Learning
- Skills Acquisition
  - Persistence
  - Success

Dissemination
- Lessons Learned
- Results Obtained
- Policy Implications
- Informed Practice
Your Assessment Framework

Highlights of AAHE’s Nine Principles of Assessment

- **Grounded in Educational Values** — Measures what is valued vs Easy

- **Reflects Multidimensionality of Learning** — Measures change and growth using diverse approaches over time

- **Desired Improvements are Clear, Concisely Stated** — Measurement is focused and results are useful

- **Gives Equal Attention to Outcomes and Pathways There** — Measures curricula, pedagogy and success/failing indicators
AAHE Nine Principles of Assessment

- **Conducted Periodically**— Measures continuous vs episodic progress

- **Broader Participation Maximizes Results** - Measures by the broader community enrich the results based on standards and ideals

- **Enhanced when Enveloped in A Broader Change Model**— Assessment is an integral part of decision making and avidly sought on campus

- **Facilitates Accountability to Participants and Public** – Fulfills responsibility to the public that intended goals and stated objectives are being met
The Evaluation Framework

**By Timing**
- **Formative**
- **Summative**

**By Agency**
- **Participatory** – Stakeholders
- **360 Degrees (Self)** – Planners, Implementers
- **External**

**Duration**
- **Ongoing**
- **Terminal**
- **Longitudinal**
Principles, Nature and Areas of Evaluation

**Principles:** Relevant, Efficient, Effective, Impact, Sustainable

**NATURE**
- Systematic
- Continuous
- Analytical
- Results Disseminated

**AREAS**
- Purpose
- Staff
- Finances
- Programs
- General
Evaluation Targets: Impact
The Overall Changes for Which the Project is a Contributing Factor

- Recruitment
  - Outreach – pipeline, profiling
  - Visibility – website, publications, admissions standards

- Preparation – Learning, Skills Acquisition
  - Proficiency in Content Knowledge
  - Proficiency in Technology Applications
  - Proficiency in Producing Gains in Learners

- Persistence and Retention
  - As a STEM major to Program Completion
  - Retention within Teaching – Induction
  - Performance Accountability
Focused View of the Evaluation Cycle

1. Framing the Evaluation
2. Defining Goals & Objectives
3. Data Collection
4. Making Sense Of the Data
Why Assess and Evaluate?

- To gather information for program or project adjustments – Efficiency, Effectiveness, Relevance
- To identify - Impact “value added”
  - “spill overs”
  - unexpected effects or impacts -
- To identify short- and long-term program effects

Sustainability

CAUTION: such effects can be due to other factors as well
When to Assess/Evaluate?

- Determined by intervention’s
  - Goals and objectives
  - Available resources (money, time, personnel)
- Appropriate intervals between milestones of the intervention/project
- After the intervention
  - How long after? Induction Included in time frame
WHAT: Curricula Alignment with K-12 Ed Reform Issues in Your State

- Common Core State Standards (CCSR)
- PARRC
- Smarter Balance
- State With drawals

- Race to the Top
  - State Rounds 1, 2, 3
  - Early Learning Challenge Assessment
  - Consortia
  - District Competition

- NSF/Noyce
  - Improved Student Achievement for All Students

- National Research Council
  - K-12 STEM Education

- ESEA Flexibility
  - Waivers
  - NCLB Reauthorization

- Teacher Evaluation tied to student growth

- Engineering
  - Computer Science
  - in K-12 Curriculum

- Next Gen Science Standards
“Partnerships are a way for institutions to join forces with nationally recognized organizations, other institutions, or community groups to work for change in STEM education.”

Prepare, Practice, Partner
American Association for the Advancement of Science
May, 2012
Successful Noyce Proposals

“Should reflect a genuine collaboration between IHE’s, school districts (schools) and other entities.”

Prepares STEM Professionals for High Needs Schools

What concrete evidence (Evaluation Plan) will your proposal provide to demonstrate your commitment to attaining these criteria in a Relevant, Efficient, Effective, Impactful and Sustainable Way?
Assessment & Evaluation

- Provide feedback on learning/Learning Paradigm
- Are Formative and Summative
- Foster Improvement
Assessment vs Evaluation

**Assessment** – is process and product oriented. It facilitates learning, encourages the desire to learn, teaches participants how to learn, enables self and collaborative evaluation and m

**Evaluation** - is results oriented. It is a tool for judging whether participants have attained proposed benefits in an efficient, effective, relevant, impactful and sustainable manner.
Change does not necessarily assure progress, but progress implacably requires change.

Education is essential to change, for education creates both new wants and the ability to satisfy them.

Assessment and Evaluation are integral to ascertaining the nature, type, quality and impact of the change that is occurring.