Grant Writing Workshop on Education Policy

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Overall Research Objectives

• Develop or identify education interventions (practices, programs, policies, and approaches) that enhance academic achievement and that can be widely deployed

• Identify what does not work and thereby encourage innovation and further research

• Understand the processes that underlie variations in the effectiveness of education interventions
Final Outcomes of Interest Are for Students

**Preschool**
- School readiness
- Developmental outcomes for infants and toddlers with disabilities

**Kindergarten through Grade 12**
- Academic outcomes in reading, writing, math, and science
- Behaviors, interactions, and social skills that support learning in school and successful transitions to post-school opportunities
- High school graduation
- Functional skills for independent living of students with disabilities

**Postsecondary:** enrollment, persistence, and completion

**Adult Education:** basic reading, writing, and math
## Key Dates

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<td>6/24/10</td>
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Education Policy

- Federal, State, district actions to improve student learning and achievement through the implementation of systemic programs and broad policies that affect large numbers of schools within a district, state, or the nation.
- Distinct from evaluations of an intervention being tried out in volunteer schools or districts.
Research Grant Programs

• Education Research Grant Programs (84.305A) & Special Education Research Grant Programs (84.324A)

• Evaluation of State and Local Education Programs and Policies (84.305E)

• National Research and Development Centers (84.305C)
Goals of the Education Research and Special Education Research Grants Programs: The Type of Work Supported

- Exploration
- Development and Innovation
- Efficacy and Replication
- Scale-up Evaluation
- Measurement
Exploration

• Explore education programs, practices, and malleable factors that are associated with better student learning and achievement outcomes

• Possible methodological approaches include:
  – Secondary analyses of longitudinal datasets
  – Small descriptive studies
  – Meta-analyses
**Exploration**

- Secondary data analysis only
  - $100,000 to $350,000 per year total cost (direct + indirect)
  - 1 to 2 years

- Inclusion of primary data analysis
  - $100,000 to $400,000 per year total cost (direct + indirect)
  - 1 to 4 years

- About 10% of grants under this goal
Development and Innovation

• Develop new interventions (e.g., instructional practices, curricula, teacher professional development)

• Demonstrate the feasibility of the intervention for implementation in an authentic education delivery setting

• Collect pilot data on promise of intervention to achieve intended outcomes
Development and Innovation

- $150,000 to $500,000 per year (total cost)
- 1 to 3 years
- About 50% of grants fall under this goal
Efficacy and Replication

• Test whether or not fully developed interventions are effective under specified conditions and with specific types of students

• Studies using random assignment to intervention and comparison conditions are preferred where feasible

• New this year: Efficacy follow-up studies
Efficacy and Replication

- $250,000 to $750,000 per year (total cost)
- Up to 4 years
- For Efficacy Follow-Up studies:
  - $150,000 to $400,000 per year (total cost)
  - Up to 3 years
- About 26% of grants fall under this goal
Scale-up Evaluation

• Test whether interventions are effective when implemented *under typical conditions*

• As implemented by practitioners and with sufficiently diverse samples to support generalizability

• Studies using randomized assignment to treatment and comparison conditions are preferred whenever feasible

• New this year: Scale-up follow-up studies
Scale-up Evaluation

• $500,000 to $1,200,000 per year (total cost)

• Up to 5 years

• For Scale-up follow-up studies:
  – $250,000 to $600,000 per year (total cost)
  – Up to 3 years

• About 2% of grants fall under this goal
Measurement

- Develop and validate assessments or other measurement tools
- $150,000 to $400,000 per year (total cost)
- Up to 4 years
- About 12% of grants fall under this goal
Policy Topics of the Education Research and Special Education Research Grants Programs

- Education Policy, Finance, and Systems
- Special Education Policy, Finance, and Systems
- Early Learning Programs and Policies
- Postsecondary Education
- Organization and Management of Schools and Districts
- Analysis of Longitudinal Data to Support State & Local Education Reform
Education Policy, Finance, and Systems

- Topic for policy work on grades K-12
- Develop and identify policies that directly or indirectly improve student outcomes

Examples

- Class size, grade span, and school size
- Retention policies
- Supplemental educational services
- Accountability sanctions on schools
- Reducing stereotype threat
- Alternate certification of math teachers
- Cost accounting at the student level
Special Education Policy, Finance, and Systems

• Topic for policy work on grades K-12 relevant to education of students with or at risk for disabilities

• Can address early childhood if work spans into K-12

Examples

– Individualized Education Programs
– Response to Intervention approaches
– Early identification systems
Early Learning Programs and Policies

• Topic for policy work on pre-K (ages 3-5)
• Focus on school readiness especially for disadvantaged students who start school behind

Examples

– Preschool quality and child health, behavioral and cognitive outcomes
– Educational television and language/vocabulary skills
– Quality of infant/toddler care and the link between preschool and school readiness
Postsecondary Education

• Topic for policy work on postsecondary
  – To be postsecondary must be able to enter directly from high school
  – Includes crossover from K-12
  – Outcomes of access, persistence, and completion especially for at-risk students

Examples

– Impact of remediation courses
– Increase college savings
– CA’s Early Assessment Program
– International Baccalaureate & postsecondary access
Organization and Management of Schools and Districts

• Topic for policies used by schools and districts to run themselves
  – Overlaps with Education Policy
  – How districts and schools can best use their resources, broadly defined
  – How districts and schools work as organizations
    • How to organize to best support student achievement
    • How to best support adoption of programs and practices
    • How to best work within specific types of communities or with specific types of students
Analysis of Longitudinal Data to Support State and Local Education Reform

• Topic for K-postsecondary policy work
  – Researchers in collaboration with an SEA or LEA
  – Using a State or district longitudinal dataset

• Exploration goal only
  – Identify malleable factors associated with better education outcomes
  – Can do primary data collection if link to longitudinal data to address research question
Evaluation of State and Local Education Programs and Policies (84.305E)

- Evaluate programs and policies selected by states and districts and implemented by SEAs and LEAs
- Foster rigorous evaluation by states and districts and use of the results in decisionmaking
- Promote research community’s interest in state and district actions
- Foster partnerships between states and districts and research community
- Provide useful information to other states and districts
- $500,000 to $1.2 million per year for up to 5 years
State and Local Programs and Policies

- Selected and implemented by SEA or LEA
  - Not by other agencies that may work in schools or with school-age populations
  - Not by researchers
- To improve student achievement
  - Directly: Outcomes of Interest discussed earlier
  - Indirectly: intermediate outcomes that are expected or known to affect Outcomes of Interest
- Address pre-K through high school
- For postsecondary must address access for traditionally underserved
State and Local Programs and Policies

• Fully developed
  – All supports in place
  – All materials available for distribution
  – Evidence that it is already developed or that it will be fully developed by start date of grant

• Widely implemented
  – State(s)- or district(s)-wide
  – Evidence of current or assured future implementation
  – On a sufficient scale to make generalizations
  – On a sufficient scale and across a variety of conditions to allow subgroup and moderator analysis
  – Under typical implementation conditions
State and Local Programs and Policies

- Substantial modification of existing practice
  - Of state or district existing practice
  - Of practice by other states or districts
- Not yet rigorously evaluated
- Adoptable by other states or districts
The Application’s Research Narrative
(84.305A, 84.325A, and 84.305E)

• 4 Sections
  – Significance
  – Research Plan
  – Personnel
  – Resources

• Requirements vary by program, topic and goal

• 25 pages, single spaced
Significance: Exploration Goal

• Importance of the malleable factors, moderators, and mediators to be examined
  – Theoretical rationale
  – Empirical rationale

• How work will lead to useful next step
  – Development or modification of interventions to address the identified malleable factors or underlying process to improve student outcomes
  – Identification of interventions for more rigorous evaluation

• Overall importance
Significance: Development Goal

• Context for proposed intervention
  – Why needed
  – What exists now

• Detailed description of intervention to be developed

• Theory of change

• Theoretical and empirical support
  – Why better than current practice

• Practical importance
  – Meaningful impact, feasibility, affordability

• Overall importance
Significance: Efficacy and Replication

• Detailed description of intervention
• Justification for evaluating the intervention
  – Importance of practical problem to be addressed
  – If in wide use, show it has not been rigorously evaluated
  – If not in wide use, show evidence of feasibility and promise to address the practical problem
• Theory of change: why lead to expected outcomes
  – Theoretically and empirical rationale
  – Direct impact on student outcomes or through mediators
• Justify that it could lead to better outcomes than current practice
• Overall importance
Significance: Scale-Up Evaluation

- Detailed description of intervention
- Justification for evaluating the intervention
  - Evidence of meaningful impacts (Efficacy study)
- Theory of change
- Justify that it could lead to better outcomes than current practice
- Implementation under normal conditions
- Implementation under a variety of conditions
- Evidence that implementation can reach high enough fidelity to have meaningful impacts
- Overall importance
Significance: Measurement

- Description of assessment and how it will be used
- Theoretical basis for constructs to be measured
- Empirical evidence for constructs
- Practical need for the assessment
- Feasibility of use
- Overall importance
Research Plan: Exploration Goal

• Research questions
• Detailed research design
• Description of sample and sampling plan
• Description of data sources
  – Secondary data
  – Primary data
  – Meta-analysis
• Description of data analysis
  – Linked to questions and design
Research Plan: Development

• Description of sample and setting
• Iterative development process: create and refine the intervention
  – How determine “operating as intended”
  – What data to collect and how use to refine
  – Timeline
• Examine feasibility of implementation in education setting
• Pilot study on promise of impact on student outcomes
  – Limit of 30% of funding
• Measures to be used in all stages, how collected, and how analyzed
Research Plan: Efficacy and Replication

• Research questions
• Description of sample and setting
• Detailed research design
  – RCT favored
  – Strong quasi-experiments if RCT not possible
  – Power
• Description of measures
  – Proximal and distal outcomes
  – Reliability, validity, relevance
• Fidelity of implementation (exception for secondary data)
• Description of comparison group and what it receives
• Mediating and moderating variables
• Detailed data analysis
  – Impact, mediators and moderators, fidelity, subgroups
  – Clustering of units, e.g., students in schools
  – Fits with design and address research questions
Research Plan: Scale-up Evaluation and State and Local Evaluation

• Same as Efficacy and Replication
  – Exception: Scale-up Evaluation cannot be based solely on secondary data analysis

• Cost-feasibility analysis
  – Allow potential users to know cost of implementing the intervention
Research Plan: Measurement Goal

• Description of methods to develop or refine assessment

• Description of methods to determine reliability and validity of assessment
Personnel

• Describe key personnel
  – Expertise in every aspect of your project: differs by grant program, topic, and goal
  – Link each person and their expertise to their role in project - show that every aspect of project has person with expertise to do it
  – Give time contribution for each - show that every aspect has enough time from expert
Other Personnel Requirements

• Some programs and topics require SEA/LEA personnel on research team:
  – 84.305A Analysis of Longitudinal Data
  – 84.305E State and Local

• Evaluations require attention to objectivity should a developer be involved
  – Efficacy projects: discuss how objectivity maintained
  – Scale-up: PI cannot be developer; developer cannot provide additional implementation support
Resources

• Show the institutions involved have the capacity to support the work
• Show that all organizations involved understand and agree to their roles
  – Letters of Support from research institutions, States, districts, schools
  – Having alternatives, in case of attrition, strengthens the application
• Document permission to use and access to confidential data
National Research and Development Centers (84.305C)

- National Research and Development Center on State and Local Education Policy
- National Research and Development Center on Postsecondary Education and Employment
- Cooperative agreement
  - Typically $1 - $2 million a year (direct and indirect) for up to 5 years
  - 50-75% for focused program of research
  - Remainder for supplemental studies, leadership activities, and their administration.
  - September 16 competition
Format of Application:
Center Project Narrative

- Significance of focused program of research
- Research plan for focused program of research
- Other Center activities
- Management and Institutional Resources
- Personnel
- 35 single-spaced pages
Center on State and Local Education Policy

• Rationale
  – States and districts setting policy for school’s academic practices with goal of raising student achievement and attainment
  – Evaluate impact of these policies: revision and adoption
• Better data available
Center on State and Local Education Policy

• Rationale (continued)
  – Create collaborations between researchers and State and district leaders
    • Address issues of interest to leaders
    • Provide useful information for their decision-making
  – Follows two current Policy Centers: CALDER and NCPI
Significance

• Choice of policies to evaluate is field initiated
  – If more than one, should be linked to common outcome

• Theoretical importance
  – Why expected to improve student outcomes

• Empirical importance

• Importance to State and/or district leaders

• Summarize overall importance
Research Plan

• Identify research questions/hypotheses
• Detail research design
• Discuss how to determine if policies have impact
  – Randomized trials preferred for evaluations: justify unit of assignment
  – If RCT not possible, justify why and offer strong quasi-experimental design to reduce selection bias
• Discuss how to determine why impact/no impact, how impact occurs, and for whom (e.g., which students, teachers, schools, districts, states)
  – Mediators and moderator analyses
    • Proximal outcomes
    • Fidelity of implementation (in both treatment and control)
    • Analysis of important subgroups
Research Plan: Secondary Data

- Describe data set(s): e.g., sampling design, sample characteristics, variables to be used, structure
- Show how linking will be done for multiple datasets
- Detail power to identify a policy-significant impact
- Show that data can be used to answer research question
- Document permission to use and access to data
Research Plan: Primary Data

• Describe sample including the inclusion/exclusion criteria
• Describe data collection procedures: surveys, interviews, focus groups, observations
  – Justify expected consent rates, response rates, attrition rates (for multiple years if necessary), and describe methods to increase and maintain participation
• Describe measures to be collected: reliability and validity
• If need to develop measures
  – Describe what to be developed: give examples of items
  – How developed
  – How reliability and validity to be checked
  – Do not propose use of grant funds to contract out development to unspecified organization for undetailed measures
• Show how data to be used to answer research questions
  – Justify power to find policy-significant impacts
Data Analysis

- Describe data analysis procedures
- Show how these procedures incorporate theory behind expected impact
- Show how they build off past empirical work
- Show how they reflect the design
- Show how they answer the research questions
- Address such issues as exclusion from testing and missing data
Center on Postsecondary Education and Employment

• Rationale
  – State K-12 education data sets can increasingly be linked to postsecondary data and employment data
  – Opportunity to address different types of postsecondary institutions (proprietary, 2 year, 4 year) and certificates/degrees
  – Opportunity to link education to student employment outcomes (e.g., hours worked, wages and benefits, field of work) as well as academic outcomes
  – Create collaborations between researchers and States to jointly identify key issues regarding the links between postsecondary education and labor market outcomes
  – Inform policymaking
Rationale (continued)

“The Institute has great interest in topics regarding less advantaged populations and individuals with disabilities, such as, what postsecondary education pathways they follow (e.g., their decision to choose an institution type, the specific institution and academic program, and successful completion) and why they choose these pathways (e.g., role of high school preparation, information on choices, social and financial support), the labor market outcomes of these pathways (e.g., employment, employment in their field, wages, stability of employment, and opportunities for advancement), how students might alter their pathways to improve their employment outcomes (for example, choice of coursework, field of study, completion certificate or degree, and quality of institution), and how postsecondary institutions might alter or enhance their education offerings to improve their students’ labor market outcomes (e.g., remediation, academic counseling, and retention and completion support).”
Significance

• Identify choice of topics regarding postsecondary education, including prior to the bachelor degree level, and employment outcomes to be examined
• Theoretical importance
• Empirical importance
• Importance to State and postsecondary leaders
• Summarize overall importance
Research Plan and Data Analysis

• Similar to that of Center on State and Local Policy
• IES anticipates secondary data analysis will be primary focus
• Primary data collection and analysis may be proposed
Other Center Activities: Supplemental Research Projects

• Determined in conjunction with IES
• Provide two examples of possible projects
  – Quick-response research (9-12 months) – often analyze secondary data
  – Short description of each: two to three paragraphs
• Show capacity to do such work
Other Center Activities: National Leadership Activities

• Done in cooperation with IES
• May include position papers, meetings and conferences, etc.
• Not expect detailed plans in application
• Provide two examples of possible activities
• Justify capacity for such work
Management and Institutional Resources

• Procedures and plans for management of Center
  – Procedures for coordinating with schools, districts, States, and researchers
  – Timeline

• Document supporting institutional resources

• Document ability to work with schools, districts, and State
  – Discuss collaboration with district and State partners

• Document data permission and access

• Developers or distributors can be included but must show how objectivity will be maintained
Personnel

- Detail expertise for all proposed work
  - Grade level, student population, education practice
  - Methodology – analysis, development, evaluation
  - Working with States and districts
    • Identify State or district personnel on research team
  - Project management
  - Leadership activities
Preparing an Application

- Read Request for Applications (RFA)
  - [http://ies.ed.gov/funding](http://ies.ed.gov/funding)
- Contact Program Officer
- Other resources on IES website
  - Webinars
  - Abstracts of projects
  - Description of peer review process
  - Videos of methodology presentations
Submitting an Application

• Submit Letter of Intent: https://ies.constellagroup.com/
• Register on http://www.grants.gov
• FY11 Grants.Gov Application Submission Guide
  – http://ies.ed.gov/funding
• Complete application package at www.grants.gov
  – Identify correct package using CFDA # and competition deadline (1, 2, or 3).
• Submit package by 4:30 p.m. on day of deadline
  – June 24, 2010
  – September 16, 2010
http://ies.ed.gov/funding

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