Mathematics and Science Education: Funding Opportunities at IES

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U.S. Department of Education
What is IES?

- Research arm of the U.S. Department of Education, non-partisan by law.
- Charged with providing rigorous and relevant evidence on which to ground education practice and policy and share this information broadly.
- By identifying what works, what doesn't, and why, we aim to improve educational outcomes for all students, particularly those at risk of failure.
IES Organizational Structure

Office of the Director

National Board for Education Sciences

Standards & Review Office

National Center for Education Statistics

National Center for Education Evaluation

National Center for Education Research

National Center for Special Education Research
# IES Research Grant Programs

## NCER

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<th>Program</th>
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<td>Education Research</td>
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<td>Research &amp; Development Centers</td>
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<td>Pre- and Postdoctoral Research Training</td>
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<td>Researcher-Practitioner Collaborations in Education Research and Decision-Making</td>
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<td>Small Business Innovation Research</td>
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<td>Research Networks Focused on Critical Problems of Education Policy and Practice</td>
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## NCSER

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<td>Special Education Research</td>
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<td>Special Education Research Training Program</td>
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<tr>
<td>Postdoctoral Training Early Career</td>
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<td>Research &amp; Development Centers</td>
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Research Objectives of IES Grant Programs

• 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 the effectiveness of education interventions and the variation in their effectiveness
Education Research Grants Program – Research Topics

• Reading and Writing
• Mathematics and Science Education
• Cognition and Student Learning
• Social and Behavioral Context for Academic Learning
• Education Technology
• Effective Teachers & Effective Teaching
• Improving Education Systems: Policies, Organization, Management, and Leadership
• Postsecondary and Adult Education
• Early Learning Programs and Policies
• English Learners
Math and Science Focused Grants by Topic/Program Area
Math Projects by Domain or Key Outcome

- PreKindergarten: 22 projects
- Number and Quantity in K-12: 10 projects
- Measurement and Probability in K-12: 4 projects
- Fractions and Functions in K-12: 1 project
- Multi-Unit and Integrated: 12 projects
- Student Motivations and Attitudes: 28 projects
- Postsecondary and Adult Education: 1 project
- Teacher Instruction and...: 8 projects
- Mathematics Assessment: 39 projects
- Mathematics Policy: 33 projects
- Geometry in K-12: 45 projects
- Algebra in K-12: 1 project
- Multi-Unit and Integrated: 29 projects
- Postsecondary and Adult Education: 9 projects
- Teacher Instruction and...: 1 project
- Mathematics Assessment: 33 projects
- Mathematics Policy: 11 projects
Science Projects by Domain or Key Outcome

<table>
<thead>
<tr>
<th>Domain/Outcome</th>
<th>Number of Projects</th>
</tr>
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<tbody>
<tr>
<td>Prekindergarten</td>
<td>5</td>
</tr>
<tr>
<td>Physical Sciences in K-12</td>
<td>5</td>
</tr>
<tr>
<td>Life Sciences in K-12</td>
<td>29</td>
</tr>
<tr>
<td>Earth and Space Sciences in K-12</td>
<td>17</td>
</tr>
<tr>
<td>Multi-Unit and Integrated Science in...</td>
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<tr>
<td>Engineering and Applications of...</td>
<td>23</td>
</tr>
<tr>
<td>Student Inquiry and Reasoning in K-12</td>
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<tr>
<td>Student Motivations and Attitudes...</td>
<td>39</td>
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<tr>
<td>Postsecondary and Adult Education</td>
<td>3</td>
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<tr>
<td>Teacher Instruction and Development</td>
<td>12</td>
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<tr>
<td>Science Assessment</td>
<td>31</td>
</tr>
<tr>
<td>Science Policy</td>
<td>15</td>
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ies.ed.gov
Education Research Goals

• **Exploration** - Explore associations between education outcomes and malleable factors

• **Development & Innovation** - Develop an innovative intervention (e.g., curriculum, instructional approach, program, or policy) OR improve existing education interventions

• **Efficacy and Replication** - Evaluate whether or not a fully developed intervention is efficacious under limited or ideal conditions
Education Research Goals

- **Effectiveness** - Evaluate whether a fully developed intervention that has evidence of efficacy is effective when implemented under typical conditions through an independent evaluation.

- **Measurement** - Development of new assessments or refinement of existing assessments, and validation of these assessments.
Research Networks Focused on Critical Problems of Education Policy and Practice

- Exploring Science Teaching in Elementary School Classrooms
  - Grants will support a network of interdisciplinary research teams to delve deeply into early elementary school (first through third grade) science teaching
  - Each Research Team will conduct three complementary, prospective studies

<table>
<thead>
<tr>
<th>Network Role</th>
<th>Maximum # of Awards</th>
<th>Maximum Grant Duration</th>
<th>Maximum Grant Award</th>
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<tbody>
<tr>
<td>Research Team</td>
<td>4</td>
<td>5 years</td>
<td>$4,000,000</td>
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<tr>
<td>Network Lead</td>
<td>1</td>
<td>5 years</td>
<td>$2,000,000</td>
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- Program Contact: Wai Chow (Wai-Ying.Chow@ed.gov; 202-245-8198)
Funding Opportunities
http://ies.ed.gov/funding/

Application Deadline – August 4, 2016

- Education Research Grants
- Special Education Research Grants
- Research Networks Focused on Critical Problems of Education Policy and Practice
- Partnerships and Collaborations Focused on Problems of Practice or Policy
- Statistical and Research Methodology in Education
- Research Training Programs in the Education Sciences
- Research Training Programs in Special Education
- Low-Cost, Short-Duration Evaluations of Education Interventions
Useful Information

• Christina Chhin
  – Program Officer, Mathematics and Science Education; christina.chhin@ed.gov ; 202-245-7736

• Math and Science Compendium:
  http://ies.ed.gov/ncer/pubs/20162000

• @IESResearch

• Blog: http://ies.ed.gov/blogs/research/

• Facebook: http://www.facebook.com/IESResearch