

Researcher Perspectives on Strengthening IES's Research Grant and Training Programs

October 16, 2014

Technical Working Group Summary

The National Center for Education Research (NCER) and the National Center for Special Education Research (NCSER), in the Institute of Education Sciences (IES) at the U.S. Department of Education, convened a Technical Working Group on October 16, 2014. The purpose of this Technical Work Group (TWG) meeting was to elicit views on the most critical education problems and issues on which high-quality research is needed, the development or adaptation of new methodological approaches for addressing these issues, optimizing IES research training programs to support the preparation of the next generation of researchers, and ways to prioritize the use of limited funds to support credible research that impacts policy and practice.¹ This effort was, in part, a response to a 2013 Government Accountability Office (GAO) report that found that IES has, through its grant making and training activities, substantially improved the quality and rigor of education research since its inception in 2002, but recommended that IES involve stakeholders to ensure that the research it supports is timely and relevant.

The Technical Working Group discussion was organized into five broad sessions: (1) characteristics of influential research; (2) critical, unaddressed issues in education research; (3) advancing research methods; (4) improving IES's training programs; and (5) targeting resources. The TWG consisted of a group of experts in the field of education research focused on a range of topics and working in academic settings and research organizations. Collectively, the participants' research represents a range of backgrounds, expertise, and methodologies and includes general and special education student populations from early childhood through postsecondary education.²

It was noted that the increased use of rigor in education research has led to more credible results for the field regarding the effects of programs, as well as in the development of programs and the exploration of data. However, participants noted that there are additional considerations in producing a more complete body of research that is timely, relevant, and likely to be used in practice.

The TWG members made several suggestions to ensure that the high-quality research supported by IES (NCER and NCSER) continues as well as becomes even more timely and relevant to practice and policy in the future.

- Identify priority research topics and invest in them to yield short-term and long-term answers and support sustained efforts in a few areas that will really make an impact.
- Increase funding to provide information in areas of immediate need (for example, to better understand special populations, to examine change and continuity, to understand the impact of leadership, and to support early career researchers).
- Promote smaller and collaborative research partnership projects focused on a particular topic or emergent gap in practice or knowledge and provide more flexibility in funding them.
- Disseminate research findings more quickly and facilitate the use of findings by practitioners.

¹ Refer to the agenda included in Appendix A.

² Refer to the list of participants and descriptions of their expertise included in Appendix B.

- Place more emphasis on implementation research and advance methods related to implementation science.
- Promote replication studies and meta-analyses to build a body of evidence.
- Promote the use of other methodologies such as factorial and single-case designs, as well as well-designed qualitative research.
- Place more emphasis on improving measures.
- Invest in connecting data systems and on gathering information over longer periods of time.

The following includes a brief summary of each session of the TWG discussions.

Characteristics of Influential Research

What research studies have had the most influence on education policy and practice in the past 10 years? What lessons we can draw from these studies to inform IES's future work?

The TWG members explained that cumulative evidence has had more impact than single studies and rigorous studies with broad reach and relevance have been the most influential. For example, the Perry Preschool Project³ and Tennessee STAR⁴ have had a large impact, in part because the results have held up over many years of follow-up. In addition, as one TWG member pointed out, the results of the Perry study also crossed “ideological lines” in its appeal to the business community and its promotion by economists.

High quality and rigorous research (e.g., randomized controlled trials) are necessary, but well-done descriptive studies can also be influential (e.g., the book “Academically Adrift” showing how little students learn in college⁵), especially when data from different sources are put together in a simple way to illuminate an issue (e.g., Sean Reardon’s work on the widening achievement gap by income level⁶). Meta-analyses and research syntheses were also identified as impactful, especially when evidence is provided across studies on a topic that “resonates” broadly (e.g., “Whither Opportunity,” which brought together quantitative research on the relationship between wealth and opportunities internationally⁷). Such studies can change the way that policymakers and researchers think about a problem.

Studies with a positive cost-benefit analysis are “sexy” and are often picked up by the media. Influential research was described by one TWG member as having the following characteristics: cumulative evidence; clear practical implications; and a tag line that can “sell” it outside academia. To be useful for practitioners, it should be meaningful, brief, and simple. Unfortunately, as another TWG member pointed out, interventions that are low-cost, transparent, and effective, and that have a strong connection to practitioner concerns are often not attractive to researchers (e.g., increasing college enrollment by ensuring students complete and file the FAFSA⁸).

³ <http://www.highscope.org/content.asp?contentid=219>

⁴ <http://onlinelibrary.wiley.com/doi/10.1002/pam.21715/abstract>

⁵ <http://www.press.uchicago.edu/ucp/books/book/chicago/A/bo10327226.html>

⁶ <http://cepa.stanford.edu/content/widening-academic-achievement-gap-between-rich-and-poor-new-evidence-and-possible>

⁷ <https://www.russellsage.org/publications/whither-opportunity>

⁸ <http://www.nber.org/papers/w15361>

Unfortunately, some well-known studies have been influential in a negative way, because suggested practices were poorly implemented or were implemented prematurely at scale without further study (e.g., students taking algebra before they are ready for it).

There are also mixed findings (e.g., on charter schools) and contradictory findings (e.g., in the area of social and character development) that are difficult to make sense of. It was suggested that IES could support research in areas such as these, where findings have been inconclusive. It is also challenging to understand why some large scale, rigorous research with positive findings do not seem to be getting more attention (e.g., MDRC's study of small high schools of choice in NYC⁹).

The TWG members discussed the importance of implementation science for researchers and practitioners to understand how to implement interventions, and how to adapt them for local contexts. It is important that the research gets translated appropriately to maximize success and minimize misuse. There are examples of effective mechanisms for getting research into the hands of practitioners quickly (e.g., the Office of Special Education Technical Assistance Centers¹⁰) that IES could consider. The TWG members also discussed the importance of getting research into teachers' hands via teacher preparation programs, since many teachers are not implementing what is known to be necessary in the classroom.

Critical, Unaddressed Issues in Education Research

What are the critical problems or issues in education today on which new research is needed?

Although the session began with praise for the “focus on rigor” in funding needed research, there was some disagreement among the TWG members regarding the ability of the current goal structure to address the full range of critical problems and timely issues in education and to obtain deeper and richer information to inform practice. Although critical issues emerged throughout the discussion, the conversation began with the need for a better understanding of: (1) specific populations and settings studied; (2) change and continuity in outcomes over time; (3) implementation and variation; and (4) for whom and under what conditions interventions are (or are not) effective.

One TWG member recommended research focused on “basic skills” such as reading, writing, math, and science to understand how students learn these skills and the best way to teach them. However, there was a difference of opinion regarding a priority focused solely on these topics in light of emerging research suggesting positive academic impacts from interventions that focus on non-academic skills such as executive function. Research is needed on how to develop teachers' expertise for teaching the new Common Core and Next Generation Science Standards;¹¹ one TWG member suggested the creation of “training modules” that could be available for teachers electronically as one method of support. The public must also be taught to understand the potential of the evidence-based practices embodied in the new standards, and they must be implemented quickly, particularly where they are most in need, in schools with higher proportions of disadvantaged students.

The need to support practitioners in understanding and using the results of research was a noted priority. The TWG members also commented on the need to better understand how to effectively implement policies. The example of universal prekindergarten was noted as a currently favored policy,

⁹ <http://www.mdrc.org/project/new-york-city-small-schools-choice-evaluation#overview>

¹⁰ <http://www.tadnet.org/pages/526-find-a-center>

¹¹ <http://www.nextgenscience.org/toward-integration-ngss-and-common-core-classroom>

emerging from a research base indicating quality preschool impacts positive child outcomes. However, little is known about how to implement the research-based practices needed to improve quality, and the possibility of wasting funds without knowing this information prior to implementing the policy is very real. It was suggested that studying why practices with no evidence prevail is a way to understand the mechanisms that might promote practices that do work.

The following sub-sections highlight particular issues the TWG members discussed as critical for research.

Teacher Preparation and Practice. The TWG members observed that we need to know more about good teaching practices to help current teachers and prepare future teachers. However, there was a disagreement among members regarding how much we know about teaching practice. It was argued that we know what teachers need to know, but not how to impart this knowledge; others disagreed and stated that there is not a lot known about teaching practice in general, or specifically good practice. Research is needed on specific problems of practice and how teachers can implement solutions. However, it was noted that there is no “silver bullet” that will solve these problems. Rather, a knowledge base on teaching practices must be built that embodies the complexities of the profession of teaching. It was also noted that teachers do not necessarily need another product or tool to implement; rather, they need a framework for making effective instructional decisions that are responsive to student needs.

Little is known about what specific knowledge and skills a teacher needs in order to take an evidence-based practice and integrate it in effective ways into the existing curriculum and across instructional tiers. How do they learn about it, how do they learn how to do it, and what does it take to make the practice part of their teaching? This may be different for different individuals, and it may take longer for more seasoned teachers to learn new practices, just as golfers need time to override a previous approach to swinging a golf club to learn a new and more effective one. Research should produce more knowledge about how to develop teachers’ expertise.

Teacher practices that are known to positively impact student outcomes also need to be better communicated and supported to promote their implementation. For example, “student talk” has been found to be a central factor in improving student learning across content areas. Therefore, teachers need to know how to effectively lead classroom discussion to ensure “student talk” is correctly implemented. IES could play a role in promoting or incentivizing the gathering and dissemination of this information. The role of technology in teaching is also under-researched in comparison to how much it is being used in classrooms; much more evidence is needed on which technologies have positive impacts on student learning.

The TWG members noted that the professional training of teachers is understudied. IES could be an important voice for including evidence in professional training. There is little understanding of what it takes to produce teachers who are trained to apply evidence-based practices. Every new teacher needs to be aware of where to find and how to use high-quality research or the same barriers will persist.

It was noted that someone who understands his or her context, can solve problems, and is highly responsive to differing student needs is considered an expert in the professional expertise literature. Teachers should be involved in research early in their careers, and a culture of professional practice should be promoted to encourage teacher learning and innovation. This involvement can cultivate

practitioners who engage in reflective practice and who are comfortable with an active role in ongoing research (similar to the culture of teaching hospitals).

Understanding Change and Continuity. The TWG members discussed the importance of longitudinal research that examines student outcomes and achievement over time and across settings from preschool through postsecondary education. Suggestions for obtaining deeper and richer information over time include: (1) establishing common databases and longitudinal datasets; (2) conducting longitudinal research that is descriptive and can generate new information and directions for research; and (3) conducting studies of longer term outcomes of efficacy trials, for example, over 10 or 15 years or longer. Better and more sophisticated measurement systems are also critical because “we cannot understand what we cannot measure.” Better measures of outcomes and instructional practices should be developed; such measures are lacking especially at the high school level. In addition, common measures should be used as often as possible and incorporated into shared datasets.

Understanding Populations. The TWG members expanded upon the need to better specify the populations and settings of interest for research and to more accurately answer questions about intervention impacts “for whom and under what conditions.” Subgroups such as English learners and students receiving special education services are often treated as homogeneous groups in research. However, these groups are quite diverse (e.g., different literacy levels in the home; different developmental needs) and there is dire need to examine differences among these and other subgroups, to understand how to support and promote better outcomes for these students.

Concerns were expressed that special education research has focused on access to the general education curriculum and ability to meet general education standards. This focus has developed at the expense of research on improving specialized service delivery models. Standardized one-size-fits-all interventions do not allow for flexible responsiveness to students with different needs. More research was suggested in this area. Finally, successful transition from high school to college and career for students with special needs was also mentioned as an area requiring additional research.

Focus on Implementation. Many of the TWG members argued for more emphasis on examining program implementation and developing the science of implementation research. Interventions should be assessed for feasibility, workability, and desirability from the perspective of practitioners to prevent wasting time and money in the development and testing of an intervention that cannot be used by others. In addition, one TWG member suggested the use of multiple study replications with variations to help identify key intervention components that are effective or not.

Another TWG member noted that interventions should be explored for their feasibility for use in diverse settings and with diverse populations. It was also mentioned that interventions are not static but dynamic; if schools use them as a framework and adapt them to their settings, there may be more “uptake.” Research can provide evidence for what practices would make a difference if implemented with some level of fidelity and under certain circumstances with certain populations. Researcher-practitioner partnerships were mentioned as critical to understanding the implementation of interventions that provide timely solutions to problems of practice.

The TWG members noted there is an intensive focus on creating standards for implementation in education research, but noted that more flexibility is actually needed, especially for implementing across different local conditions. For example, if practitioners are allowed to map intervention practices on to their existing curriculum, an intervention is more likely to be better understood and used.

Interventions should not be strictly prescribed, but rather used as frameworks to be flexibly implemented to attend to differing student needs. As one TWG member explained, researchers should also place more emphasis on understanding the conditions under which fidelity matters, versus when it is beneficial to intentionally violate for better responsiveness to student needs, can and should be empirically assessed.

It was also noted that interventions often consist of multiple components, and study designs do not typically identify which components are contributing to student outcomes or which components work for whom under what conditions. In addition, many intervention study designs do not focus on incremental development. Although multiple component studies are difficult to conduct, this type of nuanced information is needed in order to identify the potential causal mechanisms of specific components of the intervention, as well as what works or does not for specific students.

One TWG member suggested that IES provide more research funding for implementation studies prior to awarding an efficacy grant in order to identify ways to strengthen interventions before they are rigorously evaluated. Similarly, another TWG member suggested that it might make sense to encourage Development (Goal 2) studies to focus more on “debugging” interventions, rather than on conducting a pilot study to assess efficacy.

Role of School Leadership

Leadership was noted to be an important “starting point” for change in schools. Researchers want to work with leaders that truly understand the results of research and its benefits. The point was made that leaders need to understand the implementation process and continue effective practices; a better understanding is needed of how to sustain effective interventions and practices. Principals have the potential to play a role in making evaluation a more useful process, as they often conduct classroom observations and have the opportunity for data-based decision making in collaboration with teachers.

Successful and “strong” schools tend to have “strong” leaders, but there is little research on how to develop strong leaders (what do they need to know and be able to do?), or why leaders are strong in a particular context. It was noted that good urban schools “get good” in different ways, but they all have strong leadership. One TWG member noted that we need more evidence on how to scaffold change among less effective leaders. Another suggestion was made to explore the ways in which leaders interact with teachers, as well as how these interactions ultimately impact student learning and the institutionalization of evidence-based practices. The TWG members discussed some available research on school turnaround efforts, but the question of causal mechanisms between leadership and student outcomes requires more research.

Recommendations for Improving the timeliness and relevance for IES research

The TWG members offered examples of alternative funding mechanisms and strategies that might improve the timeliness and relevance of the research portfolios. Recommendations for the support or promotion of implementation science and implementation studies were echoed from the first session discussion, including the suggestion to include a formal mechanism for funding these studies, such as through a special grant competition or via a research and development center.

Alternative funding mechanisms such as “fast tracking” were suggested to promote a more “nimble,” responsive, and timely approach to grant making for specific purposes. On the other hand, one TWG member noted that this may not be IES’s role, and that foundations are better at funding such projects.

Research could be directed to focus on areas of high priority, such as professional teacher expertise, leadership, adult education, implementation science, or the study of specific populations by issuing specific calls in current RFAs, providing administrative supplements, or holding special grant competitions. The TWG members suggested finding “synergies” among the research conducted by other agencies, such as the National Institutes of Health (NIH) and the National Science Foundation (NSF), and encouraged more interagency communication to promote potential collaboration.¹² Collaborations with other agencies on related work can result in focused application of research.

Specific suggestions for the possible use of time-sensitive administrative supplements¹³ or special “fast-tracked” competitions included the following.

- Capitalize on a time-sensitive policy change to incorporate a natural experiment.
- Provide a mechanism for support where the opportunity for a partnership comes up suddenly.
- Allow for the addition of a small spinoff project from a development grant that does not require another development grant (such as supporting finalizing intervention materials or professional development components).
- Provide “bridge” funding for projects that do not fit well within the development or efficacy goals (that is, Goals 2 and 3).

It was also suggested that IES work with the research committees of organizations such as AERA to identify critical areas for research.

Finally, the TWG members compared the IES and National Science Foundation (NSF) application processes and noted that the current application requirements are highly prescriptive, though consistent with an increase in rigorous scientific methods expected for use in education research. Simplification of the application was recommended. One TWG member suggested that applications be weighted more based on an applicant’s prior research; however, another pointed out that doing so would make it less likely that early career researchers would be funded.

For example, NSF requests evidence that the principal investigator and the research team have conducted high-quality work in the past and that the current application builds logically upon that body of work, without providing all details of the project prior to funding.

Advancing Research Methods

Are researchers using the best methods to address the most critical issues in education? Do new methods need to be developed or adapted from other fields?

The TWG members noted that IES has increased the number of RCTs in education research, but that more information is needed on how, why, and when the effects are likely to occur. Researchers also need to expand questions regarding mediators and moderators to more fully understand what is going on in the “black box” of the intervention. It was suggested that researchers use a common checklist of core components of interventions to compare these core features across studies. More needs to be known about the comparison condition (counterfactual) as well; we often don’t know what “business as

¹² <http://www.nih.gov/>; <http://www.nsf.gov/>

¹³ An example of an NIH administrative supplement Program Announcement such as this can be found at <http://grants.nih.gov/grants/guide/pa-files/PA-12-119.html>.

usual” means. In studies using propensity score matching, researchers need better information on selection processes and a richer set of variables to use in modeling selection bias.

The TWG members discussed the need for more replication studies. Replication studies can provide important information on the conditions under which an intervention works best in different contexts and with different populations. Educational research has focused on internal validity, but should now pay more attention to external validity.

One TWG member suggested that it might be useful to fund a greater number of small, underpowered studies in order to save money and provide more cases for inclusion in a meta-analysis. Smaller studies could explore implementation across conditions, especially if multiple researchers committed to conducting coordinated studies; this approach would help with external validity. Other TWG members, however, cautioned that under-powered studies rarely get published in peer-reviewed journals and might not be the best way to advance the field.

In special education, it would be useful for multiple researchers to use single-case design and then to synthesize the findings. Another idea discussed was that IES could encourage researchers to publish their data (not just findings), and other researchers could cite the data.

Advances in the analysis of “big data” have helped science and industry and would enrich education research as well. Computer games, online courses and tutoring programs, and other education technologies offer new opportunities to understand how students learn and to study the effects of technology-based interventions. However, as one TWG member mentioned, education research needs a better technical infrastructure to be able learn quickly and act on variation (both existing and introduced). There is a need for “faster” and “cheaper” test iterations of intervention components - that also obtain process data - to develop better causal theories. While long term studies are valuable, shorter studies utilizing available technology are a better “bang for the buck.” For example, data collected via computer systems can provide information on the processes (both conscious and unconscious) that contribute to solving a task.

The TWG members noted that more explicit encouragement should be provided for the use of mixed methods designs. The convergence between quantitative and qualitative methods helps to provide more convincing evidence of impacts, and qualitative measures are often needed to understand how and why effects occur. Well-designed case studies can be informative for answering questions of implementation. The TWG members suggested that IES provide guidance on what constitutes rigorous qualitative research, with an emphasis on cooperative research between quantitative and qualitative researchers (in contrast to the more common parallel research efforts).

Finally, education researchers need to pay more attention to measurement issues, select the most appropriate outcome measures, and use common measures when possible to facilitate synthesis of findings across studies (for example, NIH has invested in developing a toolbox of common measures for researchers: <http://www.nihtoolbox.org/Pages/default.aspx>). The development of additional measures should be targeted where existing measures do not currently exist, and focus on different skills and dispositions to enrich our models of learning.

Improving IES’s Training Programs

Are IES training programs adequately preparing researchers to perform the most essential work? Are there other models of training that IES should consider? Are there strategies that IES might use to build a

more diverse community of education researchers?

The TWG members were positive about the IES training programs. These programs have been successful in training education researchers on critical content and methods and have had a positive impact on the schools of education at universities where they are housed. Specifically, IES funding of the predoctoral programs has energized education research programs and has increased interdisciplinary connections. The cohort model of selected fellows each year brings cohesiveness to the predoctoral training. The postdoctoral programs are beneficial in that they allow for additional training outside of the area of the fellows' doctoral program; the opportunity to work on multiple projects and to learn about applied research; and the ability to travel to attend conferences and workshops to enhance skills and professional connections.

The TWG members discussed the ways in which the training programs could be improved, including increased stipends that could serve as an incentive to draw more candidates to the predoctoral training programs, whose requirements take an additional year to complete. Postdoctoral training programs could benefit from greater flexibility to offer more competitive stipends to draw fellows from the economics field and to meet differential demands for stipends in the different fields. Postdoctoral fellows could benefit from IES offering more professional development and networking opportunities at the Principal Investigator meetings and across training programs. In addition, given the many opportunities for workshops and trainings available from IES and elsewhere, it would be helpful to pull this information together in one place for the fellows to reference in planning.

The TWG members also discussed the methods training programs. A recent training workshop, the Summer Research Training Institute on Cluster-Randomized, allowed trainers to conduct an RCT to assess the impact of the workshop (because it was oversubscribed and participants were randomly selected from the pool of applicants). Results showed that participants were more likely to have received a grant to carry out a randomized trial or to be listed as key personnel on such a grant over the three years following participation in the Institute. Participants in other methods trainings have provided positive feedback in surveys. The TWG members discussed the benefit of not only continuing the methods training program but the need for its expansion to other topics, such as meta-analysis and mediational analysis.

There was some discussion about whether postdoctoral fellowships in education research have become a necessary precursor to a tenure track job. One TWG member acknowledged that in the past, postdoctoral fellowships were used as a "fallback" to a tenure track position for weaker students, but that this is no longer the case. It was suggested that postdocs should be encouraged because they provide early career researchers with time to publish and develop a research agenda. One challenge faced by some postdoctoral fellows is the need to relocate; the need for relocation also poses a recruitment challenge for programs in less desirable locations. It was also suggested that, if funding were not tied to a particular university, postdoc fellows would be able to have mentors at multiple sites. Concern was expressed about the lack of funding support for early career research; it was suggested that small grants could be made available to fellows at the end of their postdocs to get them started in a new faculty position, and NIH K-99 grants were suggested as an example. It was also noted that some universities provide cost-sharing for such postdoc support. NCER does not fund early career fellowships, but NCSEER's are seen as valuable.

The TWG members discussed the lack of diversity across all of the training programs and offered potential ways in which IES could increase diversity. Ideas presented for addressing this stated need for increasing diversity included creating:

- A methods workshop for faculty of color
- Supports for researchers with young children to attend training workshops
- Bridge programs from minority-serving institutions (MSIs) to PhD programs at research universities
- Summer research internships for undergraduates between junior and senior year
- Gap-year research assistant programs to give undergraduate students from disadvantaged groups additional skills before they apply for graduate school (these could use the predoctoral cohort model so there are some collective experiences)
- Funding for undergraduates of color to work on research grants

One participant suggested that, for training in areas where there is not much high quality research being conducted at universities, training programs could be housed at a research organization doing substantial research in that area. Another suggestion was that programs could fund training across institutions to allow fellows the opportunity to work on different types of research.

One TWG member asked whether the lack of research in certain areas is due to poor theory or weak methodology in applications. The answer to this question can be determined based on an analysis of unfunded applications. Depending on the answer, one solution might be to develop training programs that target these issues. IES could also explore ways to attract researchers to education from other fields (e.g., business schools researching leadership).

In terms of new areas of training, TWG members discussed the need to address gaps in training for “middle level” researchers (e.g., master’s level) in areas such as the use of “big data,” predictive analytics, policy applications of education research, and working with districts to collect and use data to improve their practice.

Targeting Resources

In an environment in which research funding is limited, how can IES target its resources to do the most good for the field?

The TWG members elaborated on several ideas discussed throughout the day as potential strategies for targeting limited resources. Suggestions revisited in this session discussion included (1) creating a long-term research agenda where major advances could be made over time; (2) identifying priority topics and issues where research is needed; (3) promoting collaborative research and smaller projects focused on problems emerging from practice; and (4) increasing efforts focused on supporting early career researchers.

The TWG members began with a discussion of the time it takes to provide meaningful research results. Big or small problems of practice often cannot be solved in five years. An illustration was provided regarding the length of time it took for the research-based practice of hand-washing to be institutionalized in nursing. TWG members recommended an IES mechanism of support to invest in a long-term research agenda. The need to develop a clear body of research that provides a picture of

“what we know or do not know” to inform decisions about where resources should be directed was echoed from prior sessions; as was the need to “focus on the user” in research programs.

The TWG members elaborated on the importance of developing and disseminating a large body of work and cumulative knowledge achieved, as mentioned earlier in the day. Dedicated funding to a particular area of interest that is getting attention and is ripe for advances could be a more responsive way to make rapid progress on issues that are central to real-world education practice. IES could hold special competitions to do this work. There were differences of opinion about the funding of Research and Development Centers, with some TWG members discussing their value and others voicing concern about tying up all of the funding in a particular area with one group for 5 years. “Program Projects,” such as those used by NIH, were discussed as a potential grant mechanism for consideration by IES.¹⁴ These projects rely on a network of researchers to study a shared topic. These researchers bring their unique expertise, methods, disciplines, and perspectives to bear on common problems of practice to ultimately build a body of research that is greater than the sum of the individual studies (converging evidence is powerful in the promotion of use). This type of grant mechanism can also support a coordinating “core” research team to facilitate the work and to promote the collection of common data, the use of common implementation procedures, and dissemination efforts. These grants would allocate funding to more people as well as avoid a concentration of resources provided to the same researchers, which could result in a potentially narrow set of perspectives.

In addition, incentives were suggested as a means to promote the conduct of content-specific research, possibly with alternative funding mechanisms. It was suggested that these collaborative studies could be funded with a series of small grants competed within a particular topic, with individual studies that received the highest scores selected for funding. There was discussion among the TWG members about the feasibility of funding smaller grants in general (what infrastructure would be needed to spend time in a setting and understand practice). Concerns were expressed about the administrative costs for oversight of many small grants as being inefficient.

The TWG members also discussed the possibility of increasing supplemental funding for those grants already funded, to promote a longer term research agenda. However, concerns were expressed that this strategy and others presented for allocating finite resources would increase the amount of money going to senior researchers and current grantees rather than early career researchers. It was suggested that priorities to conduct collaborative studies with a diverse set of researchers could also place a priority on the inclusion of early career researchers. For example, a systematic priority could be included for the applications of early career researchers (to allocate more weight to the scores of newer investigators and provide an edge for them in the review process, as is done by NIH).

Finally, the TWG members asked questions about the length of the review process and, specifically, the time it takes to make funding decisions relative to other institutions such as NSF and NIH. Anne Ricciuti, the Deputy Director for Science and Director of the Standards and Review Office (SRO), provides the oversight of the IES grant review process independent of the centers, and so she answered these questions. She explained that SRO provides applicants with answers about the status of their applications via the Application Notification System (ANS). Congress needs to be notified about impending awards before applicants are notified about funding decisions, and this process takes time. In response to questions about the review steps that take place after grants are submitted, she

¹⁴ A description of the Program Project (P01) funding mechanism as used at NIH can be found at http://grants.nih.gov/grants/funding/ac_search_results.htm?text_curr=p01.

explained that screening applications for compliance and responsiveness (to identify any errors or problems that disqualify applications, or to reroute them for consideration under a different topic, goal, or competition) is the first step. Reviewers then receive applications for review and have about four weeks to complete them. The final step is the full panel review of most competitively scored applications. After the panel meeting, scores are sent to the centers, where funding decisions are made based on the panel review scores.

What is your priority suggestion to IES based on the conversation taking place throughout the day?

This final question regarding priorities was asked of TWG members before the conclusion of the meeting. Many of the points made during the discussion in this final session, as well as across sessions over the course of the day, were repeated in response to this question.

There was praise for IES, a reminder that a lot was going well, and appreciation expressed for the direction of the research. There were some differences of opinion regarding how much of the current funding structure should be changed. Specifically, it was noted that Goals 2 and 3 should better incorporate implementation science and that the length of time allowed for the conduct of Goal 2 grants could be shortened. Generally, a focus on the useful dissemination to users and implementation studies were emphasized as priorities. A recommendation was made to avoid competitions that led to a strong set of proposals but that do not result in projects that are solving problems of practice.

The need for a long-term research agenda that is focused on the generation of knowledge was mentioned again. Funding complimentary ideas was also mentioned as a priority, as opposed to funding disparate tasks related to the same topic. It was noted that other public funding institutions, such as NSF, are dedicated to building collaborative projects with a focus on a particular gap in knowledge, ensuring that funds support complimentary ideas rather than disparate tasks on the same topic.

Research syntheses and research briefs that distill key findings on a particular topic are more useful for policymakers and practitioners than reports of individual studies. It was suggested that what is available now, such as those studies reviewed and included in the What Works Clearinghouse, could be used for topic syntheses.

The investment in data infrastructure over time was also mentioned again as well as the need for these data to get a better sense of what is associated with positive outcomes in the longer term. An investment in methods for the analysis of data collected over time was also noted as an important priority. Finally, early career opportunities and awards were singled out as a priority for funding. The suggestion was made to “talk with neighbors” such as NIH about best practices regarding diversity and mentorship, as well as about better ways to partner and provide technical assistance and dissemination to practitioners and other target audiences.

APPENDIX A: AGENDA
Technical Working Group Meeting
October 16, 2014
Washington, DC

- 9:30 a.m. **Meeting objectives and introductions**
- 10:00 a.m. **Characteristics of influential research**
- What research studies have had the most influence on education policy and practice in the past 10 years? What lessons we can draw from these studies to inform IES's future work?*
- 10:45 a.m. **BREAK**
- 11:00 a.m. **Critical, unaddressed issues in education research**
- What are the critical problems or issues in education today on which new research is needed?*
- 12:30 p.m. **LUNCH**
- 1:00 p.m. **Advancing research methods**
- Are researchers using the best methods to address the most critical issues in education? Do new methods need to be developed or adapted from other fields?*
- 1:45 p.m. **BREAK**
- 2:00 p.m. **Improving IES's training programs**
- *Are IES training programs adequately preparing researchers to perform the most essential work?*
 - *Are there other models of training that IES should consider?*
 - *Are there strategies that IES might use to build a more diverse community of education researchers?*
- 3:30 p.m. **Targeting resources**
- In an environment in which research funding is limited, how can IES target its resources to do the most good for the field?*
- 4:15 p.m. **Final remarks**
- 4:30 p.m. **ADJOURN**

APPENDIX B: MEETING PARTICIPANTS
Technical Working Group Members

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