



ANNUAL REPORT TO THE GENERAL ASSEMBLY
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History of the Education Innovation Institute

The General Assembly created the Education Innovation Institute (EII) at the University of Northern Colorado (UNC) in 2009 (SB 09-032) to leverage new and existing applied research to solve practical problems in education reform. UNC secured non-state funding for the institute, which began operating in spring 2011. EII seeks to amplify its influence by collaborating with other universities, state agencies, nonprofits, and, of course, school districts.

Highlights of EII's Work During 2016

- Developed an online certificate in Applied Causal Evaluation of Policy and Innovation. Accepting applications in February for classes starting Fall 2017.
- Enhanced *Evaluating What Works*, a technical assistance program supporting the rigorous evaluation of new education initiatives, to include engaging online videos addressing common questions and concerns.
- Partnered with the Colorado Education Initiative to bring professionals from Lockheed Martin and Boeing into middle schools to support real world project-based learning in science and math. Developed plans to evaluate the model for scalability throughout the state.
- Continued collaboration with Greeley-Evans School District 6 to evaluate the causal effect of their blended learning initiative in elementary math classrooms.
- Continued collaboration with the School District of Philadelphia to develop and evaluate the causal effect of the program "Music for the 80%" on student engagement among disadvantaged youth.
- Continued supporting a federally-funded partnership between the Colorado Department of Education and UNC to better understand the educational stability of students in foster care and recommend policy action.
- Continued work on a federally-funded Investing in Innovation (i3) Validation grant evaluating the causal effect of a five-year project to create early college high schools in several Denver public schools and the Rio Grande Valley in Texas.



A Brief Overview

In its fifth year of operation, EII continued bringing to life the vision portrayed in its founding statute (SB 09-032). Given the breadth of that vision, the mission of EII has been tailored to “provide products, programs, and services that build the capacity of decision-makers in the educational system, including school leaders, researchers, and policymakers, to routinely generate and use meaningful evidence for effective resource allocation in the running and governing of schools.”

EII’s work in 2016 focused on the cultivation, care, and feeding of researcher/practitioner partnerships for the creation and use of rigorous causal research to inform education policy from the school building to the national level. Causal research is designed to determine whether programs and policies actually *cause* improved student outcomes instead of just being correlated with them. This distinction is important because policies enacted based on correlational evidence can have costly unintended consequences. The most common of these is that ineffective programs live on, diverting scarce resources from productive uses.

In 2016, EII continued development of a sustainable model to provide training, technical assistance, and evaluation support for education stakeholders in Colorado and beyond wishing to rigorously evaluate their programs as part of the continuous improvement processes. The gold standard of causal evaluation is the randomized control trial, or RCT. Although RCTs have been used for decades to advance human understanding in the medical profession, it is quite new—though equally important—in the field of education. Just as when RCTs began in medicine, there are very real ethical and political barriers to using RCTs in schools. However, these concerns can and must be thoughtfully managed to move society’s understanding forward about what works in education. EII provides hands-on support for schools as they bump against these barriers in their efforts to improve student outcomes while maximizing the return on investment for taxpayers.



*Building capacity through the online **Certificate in Applied Causal Evaluation of Policy and Innovation***

EII spent time in 2016 completing the development of a graduate-level online certificate program in Applied Causal Evaluation of Policy and Innovation. The program will begin accepting applications in February with classes starting in Fall 2017. This 12-credit program will provide administrators and others with the information and skills necessary to manage high quality evaluations of their programs and policies. Through a series of 1- and 2-credit online courses taught by experts from around the country, participants will learn how to design a low-cost, rigorous causal evaluation using existing administrative data, how to negotiate the political barriers to implementing an RCT, how to evaluate a program's cost-effectiveness, how to make sense of findings and communicate them in accessible ways, and when and how to partner effectively with evaluation experts.

*Building capacity through the **Evaluating What Works** technical assistance program*

In 2016, EII enhanced the Evaluating What Works program, which conducts outreach to education leaders about the meaning and value of rigorous program evaluation, to include engaging online videos addressing common questions and concerns. The online videos provide brief, accessible explanations about the fundamentals of rigorous program evaluation including: What is Causality?; What About Ethics?; Deciding if an RCT is Appropriate; Developing a Research Question; Effective Stakeholder Communication; and Preparing so that Results will Drive Change. Like the rest of EII's work, the videos balance discussion of technical issues with the political and practical concerns of conducting high-quality evaluations in a school setting.

*Building capacity through **Researcher-Practitioner Partnerships***

EII also partners with school districts and other education stakeholders to implement rigorous, low-cost program evaluations that are complex enough to require more involved expert assistance. While the Evaluating What Works program helps districts get started on the path to rigorous causal evaluation, a researcher-practitioner partnership potentially provides active assistance from start to finish. The hope is that such partnerships



build the capacity of districts to conduct future evaluations independently or with minimal expert assistance. Researcher-practitioner partnerships are currently funded primarily by federal and private foundation dollars, but ideally the costs of rigorous program evaluations—with or without support from higher education partners—will ultimately be incorporated into district operating budgets.

A good example of such a partnership began in mid-2016 when EII started partnering with the Colorado Education Initiative (CEI) to bring professionals from Lockheed Martin and Boeing into middle schools to support real world project-based learning in science and math. After a competitive selection process, four middle schools in Denver and Colorado Springs were chosen to pilot the intervention as a credit-bearing course during the regular school day starting in the spring of 2017. CEI hosted two facilitated workshops to establish productive working relationships between teachers and industry volunteers and to support them in the development of engaging, age-appropriate, applied project-based research questions. Industry volunteers will remain in close contact with teachers throughout the spring and interact directly with students on at least two occasions. EII is closely documenting the entire process to identify promising practices – as well as pitfalls to avoid – when expanding the intervention. If the intervention is successful, EII and CEI will plan for a full randomized control trial to determine the conditions under which the program is likely to be effective when taken to scale.

EII continues a researcher-practitioner partnership forged in 2015 with Greeley-Evans School District 6 to conduct a low-cost, rigorous evaluation of a blended learning program in six elementary schools. Blended learning is expected to enhance student engagement and achievement by increasing personalization. Since the district cannot afford to implement the intervention district wide all at once, it selected six elementary schools that were ready and interested in implementing blended learning in the 2016-17 academic year. Since these schools were not randomly chosen from among all district elementary schools, a comparison of student outcomes from these six schools to all other district schools would be correlational rather than causal. Therefore, the district elected to randomize at the grade level with half of the six schools implementing blended learning (“treatment”) in grades K, 2, and 4 and the other half in grades 1, 3, and 5 starting in fall 2016. This way,



student outcomes in the treatment grades K, 2, and 4 can be compared to student outcomes in the control grades K, 2, and 4 to estimate the causal effect of the intervention. They will then follow the same approach for grades 1, 3, and 5. Greeley-Evans leveraged the fact that they couldn't afford to implement the intervention district wide all at once by randomly assigning who got it first rather than taking volunteers or selecting those schools they expected to be most likely to succeed. As a result of this simple decision, they will have hard data to inform whether and how to further expand the program given the costs. Furthermore, similarly situated districts will have the opportunity to learn whether the blended learning model being utilized in Greeley-Evans is likely to be effective in their setting.

EII continues another researcher-practitioner partnership with the School District of Philadelphia to evaluate a program called Modern Band in Philadelphia high schools. Targeting the 80% of students—typically disadvantaged—who do not participate in formal music programs, the Modern Band program seeks to increase student engagement and enhance student preparedness for college and career. The program is expected to accomplish these goals by focusing on popular music repertoire and instruments, small ensembles, encouraging creative risk-taking among teachers and students, and technology integration. As a new intervention, like the industry/middle school partnership model with CEI, much of the early work is program development. However, the partnership will conduct a small randomized pilot study to obtain evidence of promise after the first two years of development. By comparing student outcomes from a small sample of randomly selected high schools to those from control schools, the district will obtain preliminary evidence of whether the program has a causal impact on student outcomes. If there is evidence of promise, the district will conduct a larger randomized control trial to determine the size of the impact and the associated return on investment. This strategic evaluation process of a major program rollout will help the district determine whether to continue implementing and expanding the program. Furthermore, the results will inform similarly situated districts about whether the program is likely to work for their at-risk students.