

# **Three Perspectives on Getting Data Right**

An Introduction To CNA Education's IRC Paper Series

## **CNA Education**

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Education reform in the United States is increasingly driven by data. There are important national efforts – including federal funding – to help states develop sophisticated longitudinal data systems that track students’ academic history and performance from their first entry into the school system through their college and even graduate school careers. In anticipation of the ever-greater sophistication of these systems and the growing accuracy and detail of the data they generate, policy-makers throughout the U.S. have in effect established a nationwide education accountability system that relies on these data as the principal measure of the performance of students, teachers, and schools. And in response to the level of performance thus determined, there are made a whole host of data-based decisions: about remediating, restructuring, or closing schools; about rewarding, promoting, re-assigning, and educating or re-educating teachers and school administrators; about promoting, retaining, re-assigning, or supporting students; even about the nature of the curriculum and instruction in the classroom.

As a research and technical assistance organization, CNA Education would be the last to deny the importance of good data and the first to applaud efforts to improve the quality and scope of the data available. Solid data are critical to CNA’s mission to further general understanding of the efficacy of specific education reform initiatives and to address the needs of our district-level and state-level customers and constituents for a clearer assessment of their own specific efforts and of the available options for improving their education outcomes. The three papers in this collection make the strong case, however, that the availability of good data is not all that policy-makers and educators need for their decisions. In addition, they need to understand the limitations of their data and how to use and interpret them appropriately. And they must ask – and answer to their satisfaction – a number of conceptual and technical questions that have implications for the validity, interpretation, and very meaning of the data they seek to use.

It is our experience at CNA Education that the ability of state and district education leaders to address these questions adequately depends upon a capacity for customized research and analysis that they often do not have. And that experience is a major motivation for the production and dissemination of these three papers. Whether that lack of analytic capacity is a function of chosen priorities, scarce funding, or a combination of both, we at CNA believe it is imperative that states find a way to redress it if they are fully to exploit the promise of their ambitious data systems and make policy and practice decisions that are properly informed by strong data, rigorous research, and thorough analysis. And we believe that an important opportunity for states and districts to meet their needs for adequate analysis lies in taking advantage of the external capacity that CNA and other education research-oriented agencies have to offer. The three papers

attempt to demonstrate the nature and added value of that extra capacity, each by discussing a different kind of analysis that can be contributed.

The first paper, *The State Data Analysis Gap: A Threat to Education Reform*, by Arthur Sheekey and Michael Allen, focuses squarely on the motivating concern for the series, that the tremendous growth in the power of state education databases and in our reliance upon them are not matched by a similar growth in the capacity of states to provide the depth and breadth of analysis that are required to take full advantage of the data that are increasingly available. The ability of states to use the data at their disposal for serious research purposes beyond immediate administrative and reporting needs is seriously compromised by priorities that mirror their historic focus on reporting and ensuring compliance and also by states' current fiscal predicament. The lack of research capacity not only compromises states' ability to get the most out of their data systems, it also poses a threat to the continued quality of those systems once the federal funding for their initial development is exhausted.. The paper offers several examples of how inadequate research and analysis can lead to a misdiagnosis of problems and thus to misdirected policy solutions. It concludes by suggesting that the federal government should make specific provisions in the renewal of key education programs that encourage state agencies to focus more on research and analysis. And it discusses the potential contribution of the Regional Education Laboratories (RELs) to a more vigorous state research effort. One of those agencies, REL Appalachia, is operated by CNA Education.

The second paper, written by Kyle Southern and Joe Jones, is entitled *Getting State Education Data Right: What We Can Learn from Tennessee*. It discusses four principles that should guide states' use of data and gives an example that illustrates the importance of each. The four principles are (a) establish common definitions of terms; (b) anticipate potential unintended consequences of data definitions and priorities; (c) ensure that data definitions are applied consistently; and (d) disaggregate data in order to reveal the most complete and accurate picture. As the paper makes clear, these challenges are both technical and political. Consistent with the theme of the series, the paper notes that meeting these challenges requires a detached objectivity, and at times an in-depth research capacity that local stakeholders and agencies may not be able to provide. The paper points out that the high stakes consequences that are increasingly attached to data make successfully addressing the challenges both more essential and more charged politically. On the one hand, inaccurate or unreliable data lead to a misdiagnosis of problems and thus to ineffective solutions in response. On the other hand, data that are sufficiently accurate and fine-grained may highlight uncomfortable problems that were previously invisible but now no longer can be ignored. The paper concludes that meeting

these data challenges requires a combination of solid research and analytic capacity, political will, and a commitment not to act precipitously before assessing the strengths and limitations of the data available.

The final paper, Michael Allen's *The Equitable Distribution of Effective Teachers: Can States Meet the Research Challenges Required for Success?*, describes the analytic and research groundwork that states must undertake in order to address one of the most important requirements of current federal education policy. Although virtually all states understand the need for such an analytic effort, their ability to muster it and to engage in an ongoing, rigorous assessment of the success or failure of their various efforts to achieve equitable teacher distribution depends upon a level of research expertise and capacity that may well not reside in state education agencies. In particular, the paper identifies three kinds of analytic tasks that are ultimately relevant not only to equitable teacher distribution but to any education reform priority: (1) clarifying key terms and concepts; (2) understanding the implications of the relevant existing research; and (3) grasping clearly the current state education picture and developing a reliable projection for the future. As an example of what could be possible, the paper cites the extensive research capacity Tennessee has developed to accomplish its equitable distribution goals and carry out other aspects of its ambitious reform agenda. The paper cautions, however, that the resources available to Tennessee – both its premier institutions of higher education and its substantial funding as a Race to the Top grant recipient – are not replicated in all states. Other states may have to rely more heavily on the kind of expertise that independent research entities, including the RELs, can provide them.

The emphasis on the role of the RELs in the three papers is not coincidental but a product of CNA Education's experience operating REL Appalachia, which serves the states of Kentucky, Tennessee, Virginia, and West Virginia. As the Sheekey paper specifically notes, realizing the full potential of the RELs to contribute substantially to the kind of research and analytic support that will serve the states most effectively will require a more vigorous commitment to the RELs' quick response role on the part of the Institute of Education Sciences, the U.S. Department of Education agency that governs them. There is an inherent tension in such a commitment because it appears to conflict with the charge to the RELs to produce experimental or quasi-experimental studies that can establish causal connections between education interventions and student outcomes. To be sure, such rigorous studies play a vital role in establishing the effectiveness of various curricula, instructional strategies, or policies, and they thus provide policy-makers and education leaders with valuable information. Such studies require a long-term research effort, however, and thus they cannot inform many of the more immediate policy and

instructional decisions that state leaders must make. These can include, for example, a comparison of a state's policies on retention in grade with those of other states, a prompt assessment of the adequacy and validity of available data about teacher retention and attrition, or perhaps an analysis of what is known about the effectiveness of various strategies currently used to decrease high school dropouts.

The challenge for the RELs, then, is to meet the more immediate applied research and analysis needs of their customers and stakeholders while maintaining high standards for methodological rigor. Such an effort always will appear as a regrettable compromise so long as we insist upon a hierarchical view of the range of research methods that places experimental research at the top and descriptive research at the bottom. – especially if that description is qualitative. If, instead, we consider the menu of available research methods to be a spectrum, with each method being justified by its ability to address satisfactorily the research requirements of situations appropriate to its application, then the taint of compromise is dispelled.

The three papers presented here are not per se about research methodology. Taken together, however, they re-enforce the importance of ensuring that there is adequate capacity to minister more readily to the non-experimental research needs of policy-makers and educators that at present are too frequently unmet or even overlooked. We hope you find these papers both informative and thought-provoking, and we welcome your comments and your suggestions for related further issues that we might explore.

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