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Useful, Used, and Peer Approved

The Importance of Rigor and Accessibility in Postsecondary Research and Evaluation

By Elizabeth Vaade and Bo McCready

Traditionally, researchers, policymakers, and practitioners have perceived a tension between rigor and accessibility in quantitative research and evaluation in postsecondary education. However, this study indicates that both producers and consumers of these studies value high-quality work and clear findings that can reach multiple audiences. The authors discuss the perceived importance of rigor and accessibility, barriers to accomplishing both in practice, and suggestions for achieving an appropriate balance between the two.

Introduction

> "I've looked at academic research, and it's just kind of amazing, the methods section and all their charts with the Rs and stats stuff, and that's kind of irrelevant to people like me. You want to know that it's a good study, well done, and that what they're reporting is actually happening, that they can prove that it's being shown, but it's really a messaging thing. Even if you use a very rigorous method, you can also have very clear results."
>
> –State government staffer

As budgets get tighter and postsecondary institutions face growing challenges in serving students and other stakeholders, administrators and policymakers confront difficult choices about what programs to preserve, expand, or cut. Evaluation and research are crucial in helping make these difficult decisions. Quasi-experimental designs, which we define as evaluation and research designs that resemble experiments but lack random assignment, are a popular way to evaluate postsecondary education initiatives. Comparison groups, for example, offer one way to estimate program effects through a quasi-experimental design.

Quasi-experimental studies also are prevalent in postsecondary education research. But findings from these studies are not always "useful and used" in a chaotic policymaking and practice landscape that is saturated with information. In fact, the literature on the disconnect between policy and research discusses the "two communities" problem, which posits that research and policy communities have distinct languages, values, and goals.

About the Authors

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It is easy to infer that producers of research and evaluation may prioritize rigor in educational research and evaluation while consumers may prefer "utilization-focused" studies that present easily understood findings tailored to their needs. However, a recent study we conducted on quasi-experimental method selection suggests that this perception is overly simplistic and that consumers and producers of research and evaluation share the belief that rigor and accessibility are crucial.

Our Study

In the summer of 2011, we undertook a small-scale study to examine the factors that influence the selection of quasi-experimental quantitative methods in postsecondary educational research and evaluation. In our time working at WISCAPE, we have served as both producers and consumers of research and evaluation using quasi-experimental, quantitative methods. We also have worked with a variety of policy actors—including campus administrators, faculty, and staff; legislators; government agency staff; and K-16 practitioners—who create and read this work regularly. In these experiences, we realized that individuals outside of the research community sometimes lack understanding of the method selection process and often find the work difficult to absorb.

By undertaking this study, we hoped to illuminate the method selection processes employed by researchers and evaluators as well as explore how policymakers and practitioners view and use quasi-experimental research. By identifying places where the expectations and assumptions of these groups do not align, we can illuminate reasons for the policy/research disconnect and point towards strategies to improve the nexus between research, policy, and practice.

We gathered data in the following three ways:

1. A review of research published in various electronic databases and websites;
2. An online survey of study participants, which focused on five common quasi-experimental methods in postsecondary education evaluation research
3. Semi-structured interviews with participants informed by the research review and survey responses

We chose our participants in this study to be representative of two groups: 1) researchers (scholars and other experts versed in quantitative research methods) and 2) practitioners (policymakers, administrators, and program staff). All participants have conducted work in or had some exposure to research and program evaluation in postsecondary education.

How We Framed Rigor and Accessibility in Our Study

As part of our study, we asked participants explicitly about rigor and accessibility in postsecondary research and evaluation. In the online survey, we asked participants to rate the perceived rigor, ease of understanding, and ease of execution of five commonly used quasi-experimental methods.

In general, participants noted an inverse relationship between the perceived rigor of a method and the ease of understanding and executing it as well as an inverse relationship between perceived rigor and their familiarity with the method. For example, among the methods presented, participants perceived regression discontinuity and propensity score matching to be the most rigorous options, but they also ranked them as the methods with which they are least familiar and that are the most difficult to understand and execute.

In contrast, participants believed that the options they perceived as less rigorous, like the use of all non-participants and univariate matching, were

easier to understand and execute. Our literature review also pointed toward this tradeoff: methods like propensity score matching and regression discontinuity appeared more often in venues stuck behind paywalls or unfamiliar to those outside of the academy (e.g., JSTOR) and infrequently in publicly available places that target policymakers and practitioners (e.g., the National Conference of State Legislatures website).

Although our surveys and literature review supported the general perception that there is a tradeoff between rigor and accessibility, our interviews with participants painted a different picture. During these conversations, we asked whether it is better to prioritize rigor or accessibility in educational research and evaluation and about the tradeoffs, if any, between the two. This question prompted lively discussion and divergent opinions about the extent of the tradeoff and where researchers and evaluators should focus.

The Importance of Rigor and Accessibility

Our participants articulated several reasons why researchers and evaluators should pay close attention to the rigor of their methods. First, they believed rigorous designs instill confidence in researchers' conclusions: the greater the rigor, the more likely the results capture the precise impact of a program. As one researcher noted, "Rigor is really important because you want to make sure that what you're finding out really exists." Second, they stated that rigorous designs are more likely to stand up to scrutiny from the scholarly community. Finally, participants argued that researchers always can make rigorous work more accessible in later iterations, but they cannot add rigor later in the process. As one practitioner stated, "I always would rather have the data be rigorous and comprehensive and precise because I can probably help interpret that or explain that to the end users in a layman's way." That sentiment was echoed by another researcher who argued that "you can always take rigorous results and make them accessible."

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At the same time, our participants also called for researchers and evaluators to focus on creating accessible findings. They argued that accessible work can be more useful to those positioned to influence policy and practice. Our participants believed that policymakers and practitioners often do not understand rigorous social science methods, and this lack of understanding detracts from the face validity of the work. As one researcher asserted, "If your audience is someone who is not going to have the time or means to look up what you're doing and fully understand it, then it's more important to make it understandable to your audience, assuming you're not sacrificing the entire integrity of the project." Participants stated that prioritizing accessibility sends the message that engagement with communities outside of academe is an important goal and that research and evaluation can contribute to the public good. As one participant stated, "It's not just the research but how it's delivered, who it's delivered to, and when it's delivered."

Ultimately, though, most participants contended that evaluation research should strive to be rigorous and accessible no matter what methods

are chosen. As one researcher explained, "Rigor doesn't have to come at the expense of accessibility, and vice versa. I think with the more recently popular designs, such as regression discontinuity and propensity score matching, it's absolutely possible in my mind to make these very accessible information [*sic*], even if the audience doesn't have to know how to do it, doesn't have to understand all the statistical formula[s] behind those, conceptually they can be accessible."

To participants, accessibility comes from improving dissemination and presentation, not from making different methodological choices. As one participant stated, "Rigor is really important… but I am a huge fan of making that work accessible." According to our participants, the two concepts must work in tandem because, as one researcher said, "I'm not sure what we're making accessible if it isn't rigorous." In our interviews, we found rigor versus accessibility to be a false dichotomy; an ideal study combines sound methodology with clear descriptions of findings.

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What Stands in the Way?

Our participants called for attention to both rigor and accessibility in evaluation and research, but still we are struck by the obstacles that may stand in the way of accomplishing this goal. For one, the incentive structures for faculty researchers tend to prioritize rigor over accessibility, however these terms are defined. The push for increased publications in top-tier, peer-reviewed journals, particularly for faculty members seeking tenure, may lead more researchers to choose methods that are considered highly rigorous but are not as accessible to policymakers and practitioners. As one participant suggested, "You can put propensity score matching in your title and get accepted [for publication]." Researchers may feel pressure to focus on rigor due to the need to create replicable studies and contribute to a generalizable body of knowledge.

Conversely, evaluators may face pressures to create studies that conform to stakeholders' needs, and stakeholders may prioritize simple answers or an accelerated research timeline over rigor. They also may confront budgetary or feasibility restrictions that make certain rigorous designs extremely difficult if not impossible to implement.

Finally, the different skill sets and interests of researchers and evaluators also could make the balancing act between rigor and accessibility difficult. Both groups may use similar methods in their analysis but approach the communication and dissemination of findings in different ways. Academic researchers may have little interest in reaching policymakers and practitioners, instead seeing their primary audience as other academics. But academic researchers who wish to reach beyond academe may be accustomed to using jargon and lengthy explanations when writing about methods like propensity scoring and regression discontinuity for an academic audience, creating obstacles for policymakers and practitioners who lack technical background. As one participant stated, "The simple fact of the matter is I have yet to meet a policymaker who enjoys thinking in terms of multivariate distributions and t-values and t-statistics….They want to know yes/no, up/down, viable/not viable, red/blue…that's what they're looking for."

Conversely, evaluators may not prioritize or be able to publish their work for the larger research community due to confidentiality restrictions, client wishes, or the overall goals of the project. As such, their findings may not reach the scholarly community.

How Do We Prioritize Rigor and Accessibility in Practice?

For research and evaluation to have the greatest possible impact, we believe all producers of this work should prioritize rigor *and* accessibility. Our study suggests that many policy actors share this belief. But the persistence of this issue through decades of education research and evaluation shows that this will not happen without the use of clear strategies that help all groups treat both objectives with equal importance. We offer four suggestions to help make rigor and accessibility priorities moving forward.

First, researchers and evaluators should consider using various structural techniques to help communicate rigorous methodologies and findings to those lacking statistical training so that the results can be utilized. Researchers can implement a variety of formats and elements in their papers—such as executive summaries, appendices, and other practices—that will highlight the most relevant findings at the front while leaving the technical components in place for peer review. When possible, researchers should reduce or define academic jargon, which will help make final products easier to understand. Academic researchers also can learn from the work of their evaluator peers who understand rigorous methods but may have more experience creating accessible products.

Second, researchers and evaluators should consider publishing in a variety of venues to reach the widest audience possible and increase the likelihood that those inside and outside the academy will find and use their research. Faculty incentive structures encourage academic researchers to publish in prestigious peer-reviewed journals. However, these journals often do not reach policymakers and practitioners who, according to our participants, prefer receiving information in more concise and straight-forward formats. As such, editorials, policy and research briefs, and trade publications are excellent venues for high-quality work aimed at these individuals.

Recommendations at a Glance

In working to prioritize both rigor and accessibility, researchers and evaluators should consider the following recommendations:

1. Use various techniques (executive summaries, appendices, etc.) to help communicate rigorous methodologies and findings to those lacking statistical training so that the results can be utilized
2. Publish in a variety of venues to reach the widest audience possible and increase the likelihood that those inside and outside the academy will find and use research
3. Look to others to help translate findings and disseminate them more widely
4. Engage with consumers of research and evaluation to better understand their conceptions of rigor and accessibility

Third, when it is not possible for researchers to create accessible products on their own, they should look to others to help translate findings and disseminate them more widely. For a variety of reasons, many researchers see their primary audience as the academic community, not the broader world of policy actors; as such, the interpretation and application of findings by practitioners and policymakers are not their chief concerns. In addition, some researchers have limited training in policy- or practice-focused writing. In these cases, various units inside postsecondary institutions, public policy think tanks, and other non-profit groups, for example, could provide assistance in crafting accessible summaries and connecting researchers to policymakers and practitioners.

Finally, producers of evaluation and research need to actively engage with consumers of their work to better understand their conceptions of rigor and accessibility. Because these terms can mean different things to different groups, it is crucial that producers consider both the desired impact of their work and the needs of their intended audiences. Candid discussions about best practices and areas for improvement will tackle critical questions concerning methods, formats, and publication venues. These conversations will not only increase research quality and policymaking but also will lead to more meaningful relationships among researchers, policymakers, and practitioners that are built on trust and mutual understanding of the interests and needs of each group.

Notes

[1] We would like to thank Mark Connolly and Annalee Good for their thoughtful review of the original draft. The authors bear sole responsibility for the content of this paper.

[2] Thomas E. James & Paul D. Jorgensen, "Policy Knowledge, Policy Formulation and Change: Revisiting a Foundational Question," *Policy Studies Journal* 37, No. 1 (2009): 141-162.

[3] Robert Birnbaum, "Policy Scholars are from Venus; Policy Makers are from Mars," *Review of Higher Education* 23, No. 2 (2000): 119-132; Erik C. Ness, "The Role of Information in the Policy Process: Implications for the Examination of Research Utilization in Higher Education Policy," *Higher Education: Handbook of Theory and Research* 25 (2010):1-49.

[4] See Lant Pritchett, "It Pays to be Ignorant: A Simple Political Economy of Rigorous Program Evaluation," *Policy Reform* 5, No. 4 (2002): 251-269; William R. Shadish, Thomas D. Cook, & Donald T. Campbell, *Experimental and Quasi-Experimental Designs for Generalized Causal Inference.* Boston: Houghton Mifflin, 2002; and Michael Quinn Patton, "Utilization-focused Evaluation," in *Evaluation Models*, edited by D.L. Stufflebeam, G.F. Madaus, & T. Kellaghan, 425-438. Boston: Kluwer Academic Publishers, 2000. Pritchett (2002) argues that a lack of rigorous evaluations has contributed to general ignorance in policymaking while giving no attention to the presentation of findings as a potential explanation for this ignorance. Common evaluation texts like Shadish, Cook, & Campbell (2002) also focus much more heavily on issues of rigor and validity than on accessible presentation. However, other authors, such as Patton (2000), make a compelling case for "utilization-focused evaluation" that is still methodologically sound but focuses on specific real-life uses for consumers.

[5] The authors presented results from this study at the Council on Public Policy and Higher Education Pre-Conference Forum at the Association for the Study of Higher Education's Annual Meeting in Charlotte, North Carolina on November 16, 2011. More information on the study, including a longer discussion of methodology and findings, can be found here: Elizabeth Vaade & Bo McCready, "Opening the Black Box: The Process of Selecting Non-experimental Evaluation Methods and the Impact on Postsecondary Education Programs and Policy." Paper presented at the Council on Public Policy and Higher Education pre-conference forum at the annual meeting for the Association of the Study of Higher Education, Charlotte, North Carolina, November 16, 2011, http://go.wisc.edu/lj0djh.

[6] The following five methods were included: 1) using all non-participating individuals as a comparison group, 2) univariate matching, 3) multivariate matching, 4) propensity score matching, and 5) regression discontinuity.

[7] We chose not to distinguish between researchers who focus primarily on academic or policy research and those who concentrate more on evaluation. Evaluators and academic researchers face distinct pressures and priorities in their work because they often serve different audiences. But despite these differences, evaluators and researchers use many of the same methods to complete their analyses and face similar considerations about how to create high-quality work. In addition, most of the researchers we spoke with have worked in both capacities—producing research for academic audiences and evaluations for clients—so they felt comfortable speaking broadly about method selection. For our study, the benefits of emphasizing the similarities in the challenges faced by academic researchers and evaluators outweighed the limitations of such an approach. However, future studies should distinguish between these groups carefully, depending on the research question.

[8] In our study, we did not provide participants with definitions of rigor and accessibility; instead, we allowed our participants' personal definitions of these terms guide their responses. During our interviews, various interpretations emerged, and we pulled out some major themes that helped define the terms as we moved forward with our analysis. In general, we, along with our participants, saw rigor as encompassing the technical quality of research and evaluation relative to the question being asked, while accessibility is a multifaceted concept that includes both literal access to knowledge (including whether individuals can easily acquire a copy of the work) and the way that knowledge is presented (including whether individuals reading the work can easily comprehend what is written and presented).

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