LEARN Network Research: Study Methods

June 2024

Authors: Jessica Mislevy, Ela Joshi, Candice Benge, Erin Smith, & Keena Walters

Abstract

The Leveraging Evidence to Accelerate Recovery Nationwide (LEARN) Network aims to support the procurement and adoption of evidence-based products (EBPs). Through interviews with educators and caregivers and two nationally representative surveys of education leaders, we examined educator procurement practices, barriers to procurement, and tools desired by educators to facilitate the procurement of EBPs.

This technical report describes the research design and methodology of the LEARN Network research study. It is intended for researchers and other technical audiences interested in understanding the methodological details that underly the research and complements a series of reports that present study results and discuss findings.

This report is intended for researchers and other technical audiences interested in understanding the methodological details that underly the LEARN Network research study.

Introduction

The Leveraging Evidence to Accelerate Recovery Nationwide (LEARN) Network, funded by the U.S. Department of Education, Institute of Education Services (IES), aims to promote learning growth among students by increasing the use of evidence-based products (EBPs). To do this, the LEARN Network provides capacity building to researchers in scaling their evidence-based products. The Network aims to support researchers in adapting their products while considering educator context, decision making processes, and usability. The Network also aims to advance the field's understanding of the needs and barriers that educators face in adopting and scaling EBPs through engagement with our network members, their networks, and new research.

The research strand of the LEARN Network aims to identify best practices that can help move the needle in EBP take-up from the supply (i.e., vendor, researcher, and developer) side as well as the demand (i.e., state, district, or school) side. To attain this goal, the LEARN Network is engaging with K-12 educators to learn about current barriers they face procuring evidence-based ed-tech and other curriculum materials, and how they use evidence to make such decisions. Our study addresses the following research questions:

1. What are K-12 educators' procurement practices and how do they vary across educator roles, product types, and contexts?
2. How do K-12 educators use evidence and how do these practices vary across educator roles, product types, and contexts?
3. What are changes in procurement, if any, due to the COVID-19 pandemic?
4. What strengths and challenges are faced in existing processes to procure EBPs?
5. What are desired supports to improve the procurement process, including use of EBPs?

Data and Methods

To obtain perspectives from diverse educational contexts when describing educators' procurement practices and their use of evidence therein, changes in procurement due to the COVID-19 pandemic, challenges faced, and desired supports, we used two data sources: (1) interviews and focus groups with education leaders, teachers, and caregivers representing priority roles at the school, district, and state levels collected from January through May of 2023; and (2) data from two nationally representative surveys of school and district leaders' procurement practices conducted in April and May of 2023. We employ a mixed-methods, convergent-parallel design using descriptive, correlational analytic strategies (Creswell et al., 2003; 2006; Morse, 1991; Patton, 1990). We collected and analyzed data from our data sources separately and concurrently, and subsequently triangulated across the data, allowing us to confirm, contrast, and corroborate our quantitative and qualitative findings. We describe each data source below.

Interviews and Focus Group Data

We conducted interviews with a broad array of education leaders to explore their procurement experiences and perceptions, as well as the barriers and facilitators to using evidence in procurement processes. To ensure that communities most directly affected by EBPs had a voice, we also conducted focus groups with teachers and caregivers. We use the term "interviews" to refer to all interviews and focus groups.

Protocol Development

We conducted interviews using a semi-structured protocol. The interview protocol asked about procurement steps, participants' experiences with the process (e.g., perceptions of the process, community members involved, if and how evidence is used, etc.); barriers and challenges faced related to procurement; and, tools or resources that may be helpful in identifying needs-aligned EBPs. The focus group protocol asked questions to understand whether and in what ways teachers and caregivers have a voice in EBP selection; their satisfaction with current procurement processes; and perceptions related to the performance, reliability, convenience, cost, and cultural relevance of products currently used in their school or district. We iterated on the protocols using feedback from LEARN Network advisors, which included researchers and practitioners with expertise in areas such as equity and rural education.

Sample

To compose the interview sample, we recruited prospective participants using two strategies: (1) We contacted LEARN Network advisors and SRI staff—including members of the LEARN research team—to nominate potential participants and to share information about the study (via a flyer and/or a text description) to others in their network using email, text messaging, WhatsApp (or related messaging application) and/or other distribution method; and, (2) We requested the SRI Education communications team share the focus group opportunity on SRI's social media pages. Prospective participants indicated their interest via a sign-up link.

Interview and focus group participants were then purposively invited to participate in the study from a stratified list of prospective participants representing different priority roles (e.g., principals; superintendents; staff overseeing district or state curriculum, technology, business, or research; teachers; caregivers, etc.), institution types (K-12 schools; and district and state

education agencies), and contexts (geographic locations; urbanicities, etc.), prioritizing those who served students from historically underserved contexts and populations and/or whose academic outcomes have been disproportionately affected by the COVID-19 pandemic, such as students of color, students facing socioeconomic barriers, students with disabilities, and multilingual learners. In total, as shown in Exhibit 1, we conducted interviews and focus groups with 39 education community members representing a broad array of contexts, including 19 interviews with school-, district-, and state-level staff such as principals, superintendents, and other district and state-agency staff; 2 teacher focus groups with 9 teachers; and 4 caregiver focus groups with 11 caregivers. Each 45–60-minute interview was conducted and recorded virtually using Zoom's built-in software and transcribed using an external transcription company.

Exhibit 1. Interviewees by Role

Organization Level	Role	Number of Participants	Data Collection Type
School Level Participants	Principals	5	Interview
	Teachers	9	Focus Group
	Parents/Caregivers	11	Focus Group
District Level Participants	Superintendents	4	Interview
	Other District Staff	8	Interview
State Level Participants	State Agency Staff	2	Interview
Total Number of Participants		**39**	

Note: "Other District Staff" include staff holding district-level positions such as Director of Research and Biliteracy Specialist. "State Agency Staff" include staff holding state-level positions such as Chief of Staff and Academic Program Consultant.

Analysis

After each interview, the interviewer completed a structured post-interview form to capture and synthesize key learnings and takeaways from each section of the protocol. One researcher read across the forms and identified themes for each section of the form. In addition, the research team engaged in ongoing debriefing conversations to help surface and synthesize preliminary themes across the interviews.

Coding. Next, researchers developed a coding schema to formally code the interviews using the qualitative coding software, Dedoose. We developed codes based on the question topics in the interview and focus group protocol, the research questions, a review of the literature, and preliminary themes from the post-interview form analysis. The development of the final coding schema was iterative; we piloted the schema using interview and focus group data and conferred frequently on the coding scheme, the meaning of the codes, the constructs captured, and the code names. Four members of the research team coded interviews and focus group using the final schema. The coding schema consisted of 15 child codes nested within the four

parent codes including: context and roles, procurement process, perceptions of procurement process, and evidence-based procurement.[1]

We took several steps to ensure interrater reliability and consistency in code application. One member of the research team trained other members of the team on the coding schema, including establishing coding norms, and designing inter-rater reliability checks. Coders continued to engage in ongoing consensus-building conversations. We used Dedoose's inter-rater reliability test feature to calculate Cohen's Kappa values. Kappa values among the team fell within acceptable bounds, ranging from 0.79 to 0.98 (Cicchetti, 1994; Landis & Koch, 1977).

Analytical Memos. Following the coding of each interview and focus group, the research team wrote memos synthesizing themes for each code in the schema. This process consisted of reading all coded excerpts within a given code and examining patterns within and across levels, institutions, roles, and product types. Each memo synthesized major themes and subthemes supported by quotes and vignettes. Finally, to answer a given research question using the interview and focus group data, the team wrote analytic memos for each question. We mapped child codes to one or more research questions as relevant and assigned each coder to one to two research questions. For a given research question, the assigned researcher systematically read across the relevant code-level memos to examine cross-cutting findings and themes.

Survey Data

We used RAND's American Educator Panels (AEP) to launch two nationally representative surveys in the spring of 2023.2 We surveyed district leaders (primarily superintendents) through the American School District Panel (ASDP) and school principals through the American School Leader Panel (ASLP).

Survey Development

The surveys asked school and district leaders about the types of ed-tech and other products their school or districts are buying; how schools and districts learned about, evaluated, and acquired the products; the extent to which research and evidence is used in the procurement process; and tools that would be helpful to identify and procure products with a rich evidence base.

The survey consists of both items created by the research team as well as items replicated from existing surveys. Because one goal of the study was to test the extent to which prior research on K-12 procurement of ed-tech and use of research and evidence in decision-making holds across contexts, roles, and post-pandemic, we adopted and/or adapted several key constructs from Morrison et al. (2019), Penuel et al. (2017), Farley-Ripple et al. (2022), OECD (2022), and

[1] Coding schema available upon request.

[2] The AEP sample is scientifically drawn, probability-based, and weighted to produce nationally representative estimates of K-12 public school and district leaders, including those from charter management organizations (CMO) (Robbins & Grant, 2020). For details about the AEP, see https://www.rand.org/pubs/research_reports/RRA956-10.html (ASDP) and https://www.rand.org/pubs/research_reports/RR3104.html (technical documentation). More information on the construction of the AEP survey panels and recruitment is available on the RAND AEP website at https://www.rand.org/education-and-labor/survey-panels/aep.html and in companion reports (Robbins & Grant, 2020; Grant et al., 2022).

Chiefs for Change (2021). These scales were developed for and validated by Morrison et al. (2019), Penuel et al. (2017), Farley-Ripple et al. (2022) or OECD (2022) with samples overlapping with our target population and shown to demonstrate adequate reliability. The research team iterated on drafts of the surveys by conducting cognitive interviews with education leaders and by reviewing feedback from LEARN Network advisors.

Measures

Exhibit 2 displays the survey constructs. District leaders were asked about a subset of the constructs presented to school leaders. First, we asked whether the respondents' school or district procured any core, supplemental, and/or professional development (PD) materials in the last two years. Of the material types they selected, participants were randomly assigned to think about one "focal product" for the subsequent set of questions. We examine survey items in relation to two types of subgroup variables: (1) product characteristics, and (2) school and district characteristics, as shown in Exhibit 3. Data on school and district characteristics were pre-defined and created by RAND. RAND obtained and cleaned these data from the National Center for Education Statistics' Common Core of Data from the 2020-21 school year.

Survey Administration

The final surveys consisted primarily of fixed-choice items with a small number of open-ended items.[3] SRI estimated a completion time of 4 minutes for the ASDP and 10-15 minutes for the ASLP. RAND administered the surveys online during April and May of 2023, sending several electronic reminders to participants. District leaders did not receive a stipend for completing the survey, as district policies typically prohibit district leaders from accepting stipends. School leaders received a gift card to complete the survey.

[3] Final survey data are available here: https://www.rand.org/education-and-labor/survey-panels/aep/surveys/items/sri-procurement-survey-spring-2023.html (ASLP) and https://www.rand.org/education-and-labor/survey-panels/aep/surveys/items/american-school-district-panel-survey-spring-2023.html (ASDP).

Exhibit 2. Survey Constructs

Topic	School Leader Survey (ASLP)	District Leader Survey (ASDP)	Source (adopted/adapted)
Whether school or district procured any core, supplemental, and/or professional development (PD) materials in the last two years	x	x	Created by SRI study team
Characteristics of the product	x		
Whether product was predominantly digital or print materials	x	x	
Motivation to procure the product	x		
Process of procuring the product	x		Morrison et al. (2019)
Involvement of different groups in procurement of the product	x	x	Morrison et al. (2019), Farley-Ripple et al. (2022), Penuel et al. (2017)
Sources of information that influenced decision to procure the product	x	x	
How long procurement took	x		Farley-Ripple et al. (2022)
Changes to procurement due to COVID-19	x	x	Created by SRI study team
Use of evidence in procurement and incentives to use evidence in procurement	x		Farley-Ripple et al. (2022)
Barriers to using research and evidence in procurement	x		OECD (2022)
Helpfulness of tools and guidelines to procure EBPs	x	x	Morrison et al. (2019) and Chiefs for Change (2021)
Suggestions for tools to find and procure EBPs (open ended)	x		Created by SRI study team

Note: Permissions obtained from the following individuals: Bill Penuel (Penuel et al., 2017); Jennifer Morrison (Morrison et al., 2019); Elizabeth Farley-Ripple (Farley-Ripple et al., 2022); and Mykolas Steponavicius (OECD, 2022).

Exhibit 3. Subgroup Variables

Subgroup Type	Variable	Categories	School Leader Survey (ASLP)	District Leader Survey (ASDP)
Product Characteristics	Product category	Core, supplemental, professional development (PD)	x	x
	Technology type	Digital or printed	x	x
	Product category by technology type	Core-digital, core-printed, supplemental-digital, supplemental-printed, PD-digital, PD-printed	x	x
School and District Characteristics	School Grade Level	Elementary, middle, or high school	x	
	School/District size	District: Large (2251+), medium (701-2250), small (<701) School: Large (450+), small (<449)	x	x
	School/District Locale	Urban, suburban, or town/rural	x	x
	School/District FRPL	Majority of students (over 50%) eligible to receive free or reduced-priced lunch	x	x

Note: While we collected data on district type (traditional vs. charter management organization (CMO), so few districts in the sample were CMOs that we did not have sufficient variation to examine this subgroup. For ASLP, RAND imputed data for missing demographic data during the first wave of the AEP. If principals updated this demographic data on subsequent surveys, RAND updated the demographic variables accordingly. The updated demographic data didn't always match the imputed values. For ASDP, RAND was able to fill in any missing data from the CCD data, so RAND did not impute any values.

Sample

RAND cleaned and processed survey data prior to sharing deidentified data with SRI. For ASLP, of the surveys that received a complete or partial response, RAND excluded respondents who answered fewer than 10% of questions and screened out 51 cases of respondents who were not principals of a K-12 public school. In total, 1,036 responses from school leaders were included in the final ASLP sample. For ASDP, RAND did not exclude any responses. To ensure that the samples were created using identical criteria and procedures, SRI manually applied RAND's exclusion criteria, namely, excluding respondents who answered fewer than 10% of questions. In total, 208 responses from superintendents or their delegee(s) were included in the final ASDP sample, after excluding 14 responses. Since not all respondents answered every survey question, the item-level sample varies based on data availability.

Exhibit 4 shows summary statistics for schools and districts in the ASLP and ASDP samples. The exhibit shows the number of responses for each characteristic (Unweighted N), as well as the weighted percent of school or district leaders for each characteristic (Weighted Percent; see description of weights in Analysis section). Almost all districts in ASDP were traditional public-school districts. 57% of schools were elementary schools. While 68% of districts were town/rural, 40% of schools were town/rural. Though about three-fourths of the districts were classified as small, there was a roughly even split amongst small and large schools. In terms of the demographic characteristics of schools and districts, there was roughly an even split between schools and districts where the majority of students were eligible to receive free or reduced priced lunch (FRPL), though a slightly smaller percentage of districts had majority of students receiving FRPL.

Exhibit 4. Survey Sample Characteristics

	School Leader Survey (ASLP)			District Leader Survey (ASDP)		
	Unweighted N	Weighted Percent Valid	N	Unweighted N	Weighted Percent Valid	N
Type of Respondent						208
CMO (Charter)				1	1%	
Public School District				207	100%	
School Level			1011			
Missing	25					
1: Elementary	569	57%				
2: Middle	215	21%				
3: High	227	23%				
Urbanicity			1027			207
Missing (Z)				1		
1: Urban	293	27%		59	6%	
2: Suburban	339	33%		65	26%	
3: Town/Rural	395	40%		83	68%	
District Size						204
z: Blank				4		
1: Small (700 or less)				89	72%	
2: Medium (701- 2250)				49	22%	
3: Large (2251+)				66	6%	
School Size			1021			
Blank	15					
1: 449 or less	487	49%				
2: 450 or more	534	51%				
Majority FRPL Eligible			985			204
z: Blank (no answer)				4		
0: No	525	52%		101	58%	
1: Yes(51%)	460	48%		103	42%	

Note: As the number of missing or blank responses for a given subgroup category ranged from 0-25 per category, representing less than 1% of respondents, we exclude these data from exhibit. CMO = charter management organization. Majority FRPL = Majority of students eligible to receive free or reduced-priced lunch (FRPL).

Analysis

RAND created weights that account for the probability of selection and probability of response to produce estimates for the ASLP and ASDP that reflect the national population of public-school leaders and school districts, respectively.4 First, we examined descriptive statistics (e.g., frequencies, means and standard deviations) by applying weights and adjusting standard errors as in accordance with Robbins & Grant (2020). For previously validated survey scales, we first calculated scale scores as directed by the original authors (e.g., create a simple index that is the sum of responses aggregated across items associated with each scale). We present means, standard deviations, and a distribution of responses for each scale and examine the scale reliability with our sample using Cronbach's alpha (Cronbach, 1951). To examine differences by product characteristics and school and district characteristics, we conducted analysis of variance (ANOVA) omnibus tests on the survey responses using a weighted regression analysis, followed by post hoc tests using a Benjamini-Hochberg adjustment for multiple comparisons to control for Type 1 errors (false positives) (Benjamini & Hochberg, 1995).

Use of Race/Ethnicity Variable. One of the research questions driving this study was to explore whether procurement practices and use of evidence therein varied across contexts. The distinction between compositional and contextual characteristics is not always straightforward, as individuals may be constrained by their environment (Leyland & Groenewegen, 2020), and the literature has traditionally used school composition as a proxy for context (Willms, 2010). Initially we planned to use all of the standard school and district characteristic variables included in the AEP datasets to explore variation in procurement practices across these factors given the exploratory nature of this study. However, in early stages of the analyses, members of our team experienced discomfort and raised concerns with the variable describing school- and district-level student race/ethnicity, which was defined in the AEP data as a dichotomized variable for schools and districts where the majority of students (over 50%) were White. Although dichotomization of individual demographic variables and school composition variables has been a common practice in social science research (e.g., Mickelson, et al., 2013; Roberts et al., 2020), for reasons including but not limited to maintaining confidentiality and increasing sample sizes for statistical analyses (Noroña-Zhou & Bush, 2021), we reflected that the dichotomization, chosen variable labeling, and use of White as a default reference group without reason did and would further perpetuate harmful and obsolete majority/minority comparisons and discourse (Ioannidis et al. 2021; Ross et al., 2020). In addition, the collapsing and oversimplification of racial/ethnic categories reinforces assumptions that racial and ethnic groups are homogeneous, masks important differences within groups, and produces uninterpretable results (BC Data Service Division, 2023). We believe these concerns extend to dichotomous race/ethnicity variables categorizing schools as well as individuals.

We investigated whether finer-grained race/ethnicity data were available so that we might label and analyze the data in more inclusive ways. Although school membership data disaggregated by race and ethnicity were available from the Common Core of Data, our team felt that these data were still inadequate to help understand the social, structural, and other relevant factors that may explain any observed race and ethnicity effects and appropriately contextualize them. As such, we halted analyses utilizing the race/ethnicity variable and do not present comparative results by racial/ethnic groups.

Analytical Memos. After completing the survey analysis, the research team wrote analytical memos using the survey findings for each research question. Each survey item was mapped to a research question. For a given research question, a research team member read the findings and subgroup

[4] To create the weights, RAND multiplied the selection and participation probabilities and calibrated them to reproduce the population distribution of public schools and districts in the U.S., including adjusting for non-responses. For more information about how RAND created weights, see https://www.rand.org/education-and-labor/survey-panels/aep/about.html#survey-methods-and-panel-detai-

findings for the items for that question and synthesized overarching patterns and statistically significant patterns for subgroups. Researchers were assigned to write the memo for the same research question they analyzed for the qualitative data.

Data Triangulation. To triangulate across the data sources, each researcher read the qualitative and quantitative analytic memos for a given research question, synthesizing across the findings. Within each triangulation memo, researchers organized findings by themes and subthemes from each data source, highlighting areas where findings across the data sources corroborated or contrasted with one another.

Conclusion

The LEARN Network research team conducted a mixed-methods study on educator procurement practices, barriers to procurement, and tools desired by educators to facilitate the procurement of EBPs. This report has described the research design. This report serves as a complement to study reports that present results and discuss findings, available on the LEARN Network website at https://learntoscale.org/.

References

BC Data Service Division. (2023). *Guide on using categorical race & ethnicity variables: For administrative & survey data users.* Ministry of Citizens' Services, British Columbia. https://www2.gov.bc.ca/assets/gov/british-columbians-our-governments/multiculturalism-anti-racism/anti-racism/anti-racism-hub/anti-racism-stats-and-research/arda_categoricalraceethnicityvariables2023.pdf

Benjamini, Y., & Hochberg, Y. (1995). Controlling the false discovery rate: A practical and powerful approach to multiple testing. *Journal of the Royal Statistical Society: Series B (Methodological), 57*(1), 289-300. https://doi.org/10.1111/j.2517-6161.1995.tb02031.x

Chiefs for Change. (2021). *Incentivizing Smart Choices: How State Procurement Policies Can Promote the Use of High-Quality Instructional Materials.* https://www.chiefsforchange.org/wp-content/uploads/2021/04/Incentivizing-Smart-Choices-How-State-Procurement-Policies-Can-Promote-the-Use-of-High-Quality-Instructional-Materials.pdf

Cicchetti, D. V. (1994). Guidelines, criteria, and rules of thumb for evaluating normed and standardized assessment instruments in psychology. *Psychological Assessment, 6*(4), 284–290. https://doi.org/10.1037/1040-3590.6.4.284

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16*, 297–334. https://doi.org/10.1007/BF02310555

Creswell, J. W., Plano Clark, V. L., Gutmann, M., & Hanson, W. (2003). Advanced mixed methods research designs. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 209–240). Sage.

Creswell, J. W., & Plano Clark, V. L. (2006). Choosing a mixed methods design. In *Designing and conducting mixed methods research* (1st ed., pp. 58-88). Sage Publications.

Farley-Ripple, E., Van Horne, S., Tilley, K., Shewchuk, S., May, H., Micklos, D. A., Blackman, H. (2022). Survey of Evidence in Education for Schools (SEE-S) Descriptive Report Executive Summary. *The Center for Research Use in Education (CRUE) & the Center for Research in Education and Social Policy (CRESP), University of Delaware*.

Grant, D., Walsh, S. J., Setodji, C. M., Schwartz, H. L., Diliberti, M. K., & Wagner, L. (2022). *RAND American School District Panel: Creation and Technical Description.* RAND Corporation. https://www.rand.org/pubs/research_reports/RRA956-10.html

Ioannidis, J. P., Powe, N. R., & Yancy, C. (2021). Recalibrating the Use of Race in Medical Research. *Jama. 325,* 623-624.

Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics, 33*(1), 159-174. PMID: 843571.

Leyland, A.H., Groenewegen, P.P. (2020). Context, Composition and How Their Influences Vary. In: A.H. Leyland & P.P. Groenewegen (Eds.), *Multilevel Modelling for Public Health and Health Services Research* (pp. 107-122). Springer, Cham.

Mickelson, R. A., Bottia, M. C., & Lambert, R. (2013). Effects of school racial composition on K-12 mathematics outcomes: A metaregression analysis. *Review of Educational Research, 83*, 121-158.

Morse, J. M. (1991). Approaches to qualitative-quantitative methodological triangulation. *Nursing Research, 40*, 120–123.

Morrison, J. R., Ross, S. M., & Cheung, A. C. K. (2019). From the market to the classroom: How ed-tech products are procured by school districts interacting with vendors. *Educational Technology Research and Development, 67*(2), 389–421. http://dx.doi.org/10.1007/s11423-019-09649-4

Noroña-Zhou, A., & Bush, N. R. (2021). *Considerations regarding the responsible use of categorical race/ethnicity within health research.* https://doi.org/10.31234/osf.io/kfa57

OECD (2022), Who Cares about Using Education Research in Policy and Practice?: Strengthening Research Engagement, Educational Research and Innovation. *OECD Publishing*. https://www.oecd.org/education/who-cares-about-using-education-research-in-policy-and-practice-d7ff793d-en.htm

Patton, M. Q. (1990). *Qualitative evaluation and research methods* (2nd ed.). Sage Publications, Inc.

Penuel, W. R., Briggs, D. C., Davidson, K. L., Herlihy, C., Sherer, D., Hill, H. C., Farrell, C., & Allen, A.-R. (2017, May). How school and district leaders access, perceive, and use research. *AERA Open*. https://doi.org/10.1177/2332858417705370

Robbins, M. W. & Grant, D. (2020) *RAND American educator panels technical description.* RAND Corporation. https://www.rand.org/pubs/research_reports/RR3104.html

Roberts, S. O., Bareket-Shavit, C., Dollins, F. A., Goldie, P. D., & Mortenson, E. (2020). Racial inequality in psychological research: Trends of the past and recommendations for the future. *Perspectives on Psychological Science, 15*, 1295-1309.

Ross, P. T., Hart-Johnson, T., Santen, S. A., & Zaidi, N. L. B. (2020). Considerations for using race and ethnicity as quantitative variables in medical education research. *Perspectives on Medical Education, 9*, 318-323.

Willms, J.D. (2010). School composition and contextual effects on student outcomes. *Teachers College Record, 112*, 1008-1037.

Suggested Citation

Mislevy, J., Joshi, E., Benge, C., Smith, E., & Walters, K. (2024). *LEARN Network research: Study methods*. SRI International.

SRI Education
A DIVISION OF SRI INTERNATIONAL

The research reported here was supported by the Institute of Education Sciences, U.S. Department of Education, through Grant R305N220012 to SRI International. The opinions expressed are those of the authors and do not represent views of the Institute or the U.S. Department of Education.

To learn more about the LEARN Network,
visit the website at https://learntoscale.org/