

The Hechinger Institute

GUIDE

to Education Research
for Journalists



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***Julia Denning**, a research associate for the National Academy for Excellent Teaching at Teachers College, Columbia University, wrote the bulk of this guide. Denning holds an MA in education from Teachers College, where she focused on measurement and evaluation. Denning earned a BA in psychology, with an emphasis on child development, from Pomona College.*

Guide to Education Research for Journalists

Getting Started: What to Know, Who to Know and Questions to Ask



The Purposes of Education Research

By Richard Lee Colvin

A new report says smaller class size is even better than previously thought. A study makes broad conclusions about the benefits of computers in the classroom. A pro-choice think tank asserts that vouchers and competition will make achievement soar. How does a journalist make sense of it all and analyze the truth behind the assertions?

Understanding education research can help reporters put these claims into context. Education research allows us to understand and explore how children learn and the settings in which success in education takes place. It uncovers how schools work to develop global citizens, artists, writers, thinkers, and more. Good research goes beyond finding out what works in education to figuring out why an innovation works. It helps to improve practice, whether it's teaching, counseling, or leading schools. And it can influence education policy at local, state and federal levels. Research also attempts to answer the question of why schools often fail to reach the goals set by society. Higher education receives similar scrutiny.

Still, basic questions remain unanswered. For example, what is the best way to teach math? Research can't yet say. Yet, as Deborah Stipek, dean of the Stanford University School of Education, observes, "We spend more on toothpaste research than we do on education research."

Journalists who cover education need to recognize that research can provide them with sources of data, knowledge, and explanations that can make their reporting more authoritative and useful to readers, listeners, and viewers.

But journalists need to find the research best suited to their work. This guide offers a roadmap. It outlines the different types of research, defines common research terms, and provides an overview of methods researchers use to obtain their results. There is also an extensive list of sources to help journalists use research in explaining complex issues to a general interest news audience.

Richard Lee Colvin is the director of the Hechinger Institute.



Identifying Useful Research

When you read a study, ask yourself:

WHAT IS THE RESEARCH QUESTION?

A good study will state a clearly defined purpose, research goals, and background research underlying the question at hand.

DO THE METHODS MATCH THE QUESTION?

If the question is about cause-effect – meaning that a result, or an effect, is caused by what the researcher is doing – the type of research design should be experimental or quasi-experimental (see page 27 for definitions of research terms). If the research question is more exploratory or descriptive, a non-experimental or case study design would be the best choice. If the question is about the environment as a whole, then ethnographic research should be used.

HOW DID THE RESEARCHERS CHOOSE THEIR SAMPLE?

Why did they choose this population? How did they decide who would be in the sample? Random sampling – when everyone in the target population has an equal likelihood of being selected for the sample – is considered the method that produces the most definitive conclusions. But it is also next to impossible to truly randomize the sample in education research because the researcher would have to consider an entire population of participants (e.g., all second-graders in every New York City school) even for a small sample of 200, for example. So, to be credible, researchers must explain carefully how and why they chose their samples.

DOES THE SAMPLE REPRESENT THE POPULATION?

If researchers hope to extrapolate their findings to the general population, the sample cannot be too small. For example, if the study is attempting to describe all middle school students in the United States, the sample should probably include middle school students from a variety of backgrounds, in both urban and rural areas, and from a variety of regions. A study that looked at only middle school students from two districts in New York City would allow the researcher to say something only about those two districts, and even then the conclusions would be more anecdotal than definitive.



ARE THEIR METHODS AND TOOLS REASONABLE?

A researcher's methodology and tools should match the stated question. For example, if a researcher wants to know whether a new literacy curriculum improves students' reading skills, he or she should not use a writing assignment as the measure, but rather a reading selection.

WHAT CONCLUSIONS ARE RESEARCHERS DRAWING FROM THEIR RESULTS?

Conclusions should be logical and clearly explained. The researcher should not overstate the findings.

CAN – OR SHOULD – THESE RESULTS BE GENERALIZED?

There are a number of factors that can lead to findings in a study. The researcher should explain what the results mean, pointing out the various factors that could be involved: who was studied, if the group is representative of the target population and so on. If the results seem constrained to people in one particular time and place, the researcher should not claim that the findings would hold true in other times and places.

WHAT ARE THE STUDY'S LIMITATIONS?

No study is perfect, so the researcher should address the limitations somewhere in the paper. It is also important for the reader to keep in mind the types of biases that can exist when conducting a study and preparing findings. Ask yourself: Who funds the researcher? Why is the researcher conducting the study? Does the researcher have any political or commercial affiliation? Answers to these questions will help give you a better understanding of the study and the people behind it.

HOW DO RESEARCHERS SEE THEIR FINDINGS FITTING INTO EXISTING RESEARCH?

Researchers should be able to articulate how new findings either build on or refute what is already known about the issue they are examining. Do the findings contradict what was known? What questions remain to be researched? It is helpful to see how new research fits in to the larger context. 

Guide to Education Research for Journalists

Research Designs



Common Research Designs

There is no single right answer as to which research method is best for understanding what works in education and why. Researchers typically select among six common research designs, depending on the circumstances and the question. Journalists will encounter studies using each of these methods. And each will serve one of the main purposes of education research:

- *To describe or document a phenomenon.*
- *To examine relationships.*
- *To determine and understand causes of observed effects.*

Once researchers decide on the best research method and study design, they must decide how they will collect the necessary data. They have to determine whether quantitative data (numeric data) will best suit their purposes, or whether qualitative data (observations, written survey responses, interviews) are needed. Many researchers use both qualitative and quantitative data to fully explore their research questions. The quantitative data document a phenomenon, and the qualitative data help explain it. Below, we describe six common research designs, how they are best used, their defining characteristics, and examples of each.

EXPERIMENTAL

WHAT IS IT?

The researcher attempts to control all factors that may affect the result of an experiment. True experimental design uses random assignment and has a control group. Unlike biology experiments in a science lab, education experiments are conducted on human beings. This presents practical, political, and ethical problems. It is rarely possible to assign students randomly to treatment and control groups. If a treatment is working well, parents will understandably demand that their children also benefit from it.

BEST USED FOR:

Determining causal relationships. Experimental designs are especially useful to address questions about the effectiveness and impact of programs. (For example, do smaller classes contribute to higher student achievement?)

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DEFINING CHARACTERISTICS:

Random assignment—Students in a sample population are equally likely to be put into any of the groups to be studied.

Control group—Does not receive the treatment. (In an experiment testing the effects of smaller class size, the control group would be an average-size class rather than a smaller one.)

Manipulation of independent variable(s)—If the independent variable is class size, the researcher would put students in classes of various sizes (e.g., 30 students in the control group and 17 in the experimental, or treatment group).

Controlling for confounding variables—Researchers seek to keep everything except the independent variable constant across groups. For example, the teachers in the control and treatment groups would have to be as similar as possible, in terms of their training, experience and other characteristics.

EXAMPLE:

One famous example of experimental design is known as the Tennessee class-size study. Kindergarteners were randomly assigned to a classroom with 17 or fewer students and one teacher, a classroom with the regular number of students and one teacher, or to a class with the regular number of students, a teacher and an aide. At the end of four years, students in the smaller class showed more improvement in math and reading scores than students in the regular classes or the classes with a teacher and an aide. Minority students were especially likely to benefit.¹

TYPES OF EXPERIMENTAL DESIGNS

TREATMENT/CONTROL, POST-TEST ONLY—In this type of design, students to be studied are measured (by administering a test, observing the students, or other assessment methods) only at the end of the research period. So, researchers must assume that all of the students were on the same academic level prior to the treatment.

1. A sample group of 50 students is randomly assigned to either the control group (class with no daily reading time) or the treatment group (class with 15 minutes of daily reading time).
2. The treatment is administered for a set amount of time. (Children in the

¹ Frederick Mosteller, "Tennessee Study of Class Size in the Early School Grades," *The Future of Children* 5, no. 2 (1995): 113-127.



treatment group have daily reading time for six weeks. Children in the control group have no reading time.)

3. The two classes are tested at the end of the six-week period and the results are compared to see if daily reading time made a difference.

TREATMENT/CONTROL, PRE/POST TEST – Testing is done at the start of the study as well as at the end. By assessing groups at the start, the researcher can determine pre-existing differences (e.g., one group performs better than another) and can rule out initial differences or development when reviewing post-test results. This means that if the treatment group scores 10 points higher than the control group on the pre-test, a 20-point difference between the groups on the post-test might actually just be a 10-point gain for the treatment group because it started out scoring higher. Without a pre-test, the researcher would never know that the groups were different to start with, which might lead the researcher to misinterpret the results.

1. A sample group of students is randomly assigned to either the treatment or control groups.
2. They are tested to establish the baseline condition (who performs better, by how much, and so on).
3. One group receives the treatment.
4. Groups are re-tested to determine outcome.
5. Researcher measures how each of the groups changed during the study period.

FACTORIAL DESIGN – This methodology is similar to those listed above, except that various levels of the treatment are studied. For example, a study on the effectiveness of a new reading program might use the program once a week in Classroom A, twice a week in Classroom B, and three times a week in Classroom C. This will help clarify which level of treatment is most effective, if any. Given the scarce resources in education, it is helpful to know whether the same effects can be achieved with lower input (e.g., one extra reading session a week versus three).

QUASI-EXPERIMENTAL

WHAT IS IT?

An attempt to uncover a causal relationship.



BEST USED FOR:

Determining impact. Quasi-experimental designs are commonly used in evaluating educational programs when random assignment is not possible or practical. (For example, to determine the effects of different methods of teaching vocabulary on how well students learn specific vocabulary, infer meanings of new words, and comprehend texts.)

DEFINING CHARACTERISTICS:

Non-random assignment. Participants to be studied are placed in either a treatment or comparison group. But the researcher cannot ensure that all participants are equally likely to wind up in either group.

Matched groups – Researcher attempts to make or find a treatment and comparison groups that are as similar as possible for race, gender, socioeconomic status, and so on.

Manipulation of independent variable(s) – If the independent variable is vocabulary instruction, the researcher would use different strategies with different groups (e.g., how to analyze words phonetically, teach vocabulary directly, etc.) and measure the impact.

Controlling for confounding variables – In quasi-experimental studies, researchers use statistical techniques to try to eliminate the effect of extraneous variables and try to keep everything but the independent variable constant across groups.

EXAMPLE:

Researchers wanted to determine whether it was more effective to teach social studies vocabulary to fifth-graders by asking them to analyze the words in the context of a passage (Group A), or by teaching them definitions explicitly and directly (Group B). Groups of fifth-graders who were similar in terms of race, ethnicity, and socioeconomic status were established. The teachers for the two groups had similar levels of experience. Group A learned vocabulary by analyzing words phonetically and using contextual clues. Group B was taught the words directly. After two months, researchers found that Group B performed better on vocabulary tests, but Group A performed better on tests requiring them to infer the meaning of new words.²

² J.F. Baumann et al., "Vocabulary Tricks: Effects of Instruction in Morphology and Context on Fifth-Grade Students' Ability to Derive and Infer Word Meanings," *American Educational Research Journal* 40, no. 2 (2003): 447-494.



TYPES OF QUASI-EXPERIMENTAL DESIGNS

NON-EQUIVALENT GROUPS DESIGN

1. A sample group of 50 students is enrolled in two classrooms according to the school's usual class assignment policy. The researcher decides that one classroom will be the treatment group and another the control group. While designating which classroom will be the treatment group, and which will be the control group can be done randomly, the assignment of individual students to the two groups is not random. Researchers often are prevented from randomly assigning students because of ethical, financial, or situational constraints.
2. Both groups are assessed to establish the baseline condition.
3. The treatment is administered.
4. The groups are reassessed.
5. The results are measured to see how each of the groups changed during the study period.

CASE STUDY / ETHNOGRAPHY

WHAT IS IT?

This is a qualitative research method. All aspects of an environment – context, activities, and so on – are of interest to the researcher, unlike experimental studies in which the researcher attempts to isolate a cause and effect while controlling for everything else. In a case study, or ethnography, a researcher would study everything in a classroom. An ethnographer trying to analyze the outcomes from a particular reading program would go beyond whether it is having a positive effect and try to understand why it is working or why not. Ethnographers employ strategies to make their observations as rigorous and consistent as possible. Ethnography is studying a culture – in this case, the culture of the classroom. A case study often is done in addition to gathering quantitative data.

BEST USED FOR:

In-depth study of one site or a small number of sites. A researcher studying the effects of a new smaller, nontraditional high school would spend time in classrooms, teachers' lounges, the cafeteria, staff meetings and so on to understand the culture of the school. The researcher would be trying to determine how the program is being implemented, compromises that had to be made, barriers to success and areas for further examination.

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DEFINING CHARACTERISTICS:

- Research is done in natural settings.
- Research is descriptive.
- Researcher becomes involved in what he or she is studying.

EXAMPLE:

A researcher prepared a case study of the activities in a novice teacher's classroom, trying to understand the teacher's efforts to use a curriculum designed to increase responsiveness to cultural differences. The researcher used information from her notes, journals, conversations with students, interviews, her correspondence with the teacher, and the teacher's journals to write her report. This in-depth study of one particular teacher's classroom—rather than, say, surveying 300 teachers—provides insight into what this kind of curriculum looks like in practice. If the researcher's analysis concluded this worked well, that might lead to a larger study of 10 classes. Or, it could result in changes being made to the curriculum.³

TYPICAL ETHNOGRAPHIC TECHNIQUES

- In-depth interviews
- Direct observation
- Researcher as participant. This means the researcher actively participates in whatever he or she is observing (e.g., sitting among the students and offering ideas during a class discussion rather than sitting off to the side and silently taking notes).

UNOBTRUSIVE / ARCHIVAL RESEARCH

WHAT IS IT?

Use of data collected in the past to reach a finding.

BEST USED FOR:

Looking at trends over time.

DEFINING CHARACTERISTICS:

- Data has already been collected.
- Researcher does not interact directly with study subjects.
- Examples might be data collected by the National Center on Education Statistics, which oversees the National Educational Longitudinal Study; the U.S. Census Bureau; or other ongoing data collection efforts.

³ B.S. Bergeron, "Enacting a Culturally Responsive Curriculum in a Novice Teacher's Classroom: Encountering Disequilibrium," *Urban Education* 43, no. 1 (2008): 4-28.

**EXAMPLE:**

A study examined how high school exit examinations in the United States over 27 years were related to high school completion, dropout rates, and rates of GED test taking. The data showed that exit exams were related to lower high school completion, higher dropout rates, and higher rates of GED test-taking.⁴

OTHER FORMS OF RESEARCH**EVALUATION RESEARCH****WHAT IS IT?**

Evaluation research provides feedback before, during, and after a program, curriculum, or policy is in place. Journalists should be aware that many evaluations are funded by a third party, often the designer of the program or curriculum. A federally financed program must be evaluated as a condition of receiving the funds. This is becoming more common with all kinds of grants. Because external evaluation is desirable (to avoid internal bias), evaluators become “researchers for hire,” examining the questions of interest to their clients. Politics and money can play roles in what gets evaluated and how.

TYPES OF EVALUATIONS***Needs assessment***

Conducted during the planning, or beginning, phase. Helps evaluators see whether a program will suit the needs of its intended recipients, or to decide to create a program to meet these needs. For example, if a principal wanted to create an induction program for new teachers at her school, she might have a researcher review the teacher induction literature, interview and/or survey teachers, and come up with a report on what new teachers feel they need from an induction program. The principal would then use that information to design a program.

Implementation study

Documents the processes involved in the program and how well the implementation matches the original design. Knowing how well the program is being implemented is extremely important. If what is going on in the classroom does not match what was intended, it is impossible to draw any conclusions about the value of the program being studied.

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⁴J.R. Warren, K.N. Jenkins, and R.B. Kulick, “High School Exit Examinations and State-Level Completion and GED Rates, 1975 through 2002,” *Educational Evaluation and Policy Analysis* 28, no. 2 (2006): 131-152.



Any change in student performance could be due to extraneous variables rather than to the program itself.

Formative assessments

Can be used to provide feedback during the course of a program so that adjustments and improvements can be made in real time.

Summative assessments

The focus is on the outcomes, or impact of the program. These assessments cannot be undertaken until the program has been in place long enough for the program to have had an effect.

Impact assessments

Explores the extent to which the program has reached its goals.

Cost-benefit analysis

Determines whether the positive outcomes of the program outweighed the expense (both human and financial resources).

META-ANALYSIS

WHAT IS IT?

The systematic synthesis of the existing research on a particular research question, which often involves exploring conflicting findings. Researchers use meta-analysis to translate results from different studies to a common metric and use statistics to explore relations between study characteristics and findings.

BEST USED FOR:

Instead of conducting one's own research and looking at only a few prior studies, a meta-analysis allows researchers to look at more studies to see connections or differences between them. Such studies can be powerful because they involve analyzing the results of many research efforts.

EXAMPLE:

A recent meta-analysis of research regarding maternal employment and student achievement found that, overall, there was no significant difference between the achievements of students whose mothers worked versus those whose mothers did not. Further analyses revealed that, in some cases, children of working mothers exhibited slightly higher levels of achievement. However, these effects were moderated by race/ethnicity, age, family structure, and the timing of maternal employment.⁵

⁵ W. A. Goldberg, "Maternal Employment and Children's Achievement in Context: A Meta-Analysis of Four Decades of Research," *Psychological Bulletin* 134, no. 1 (2008): 77-108.

Guide to Education Research for Journalists

Helpful Hints & Useful Tips



How to Read a Journal Article

When evaluating research in education journals, reporters should be discerning and skeptical – just as they are when deciding what makes a good story, says Gloria Ladson-Billings, an education professor at the University of Wisconsin-Madison. A former journal editor, Ladson-Billings spoke to reporters at a recent research symposium on how to navigate their way through an education journal article.¹

- Look for the abstract, which summarizes the main ideas and the findings. It will tell you what the article is about and should help you decide whether to continue reading.
- Pay close attention to the introduction. It should set the stage and give you a sense of how this study fits in with previous work.
- The article should describe the researcher's methodology: How big is the sample size? The smaller the sample size, the less convincing the study. Are the methods appropriate for the question the researcher is trying to answer?
- Do your homework about the researchers. What else have they written about? What credibility do the authors have? Are they well-regarded? Do they have biases? Do the data show what the authors claim?
- Watch the language. Part of your job as a journalist is to ferret out a study's limitations; paying close attention to the language will help you do so.
- Scrutinize the results and ask the author to ask who else you might interview on the topic and to identify conflicting studies (if they're not mentioned in the discussion section of the article).
- Look closely at the data and see how or if the author discusses any shortcomings or limitations of the data or potential sources of error.
- Scrutinize the journal that published the research. Ask what percentage of submitted articles are rejected and about citation data and put these details in stories to give readers context – the more often the journal is cited, the more authoritative. Plus, the lower a journal's acceptance rate for articles, allegedly the higher the journal's quality. Some journals with low acceptance rates are the Harvard Educational Review, American Educational Research Association Journal and the Teachers College Record.

– Liz Willen

¹Ladson-Billings' suggestions incorporated those of Robert Sternberg, dean of the School of Arts and Sciences at Tufts University and chairman of the American Educational Research Association's publications committee.



Tips for Reporters From an Education School Dean

Deborah Stipek is dean of Stanford University School of Education. Stipek is a leader in bridging the gap between education research and the public and journalists. She has focused much of her research over the past 30 years on early childhood education and elementary education, especially on classroom instruction that promotes motivation to learn. She has a special interest in policies affecting children and youth. Here are her tips for reporters:

1. One study rarely tells you much – it is too limited. Don't jump to report on it.
2. Get a second opinion when reporting on any study.
3. Look for studies that have researched outcomes of a method or program in multiple settings. For example, research that has been repeated in eight sites – and the intervention worked in six but the researchers can explain why it didn't work in the other two – may be worth reporting.
4. The larger the sample, the better.
5. Studies that also consider how well a particular approach has been implemented are more believable.
6. What is being used to measure outcomes? State tests are suspect because what counts as proficiency may not be sufficiently rigorous or relevant.
7. When various scholars disagree about the meaning of a study or the meaning of a body of research, it usually means the data is inconclusive.
8. Develop relationships with five or six senior scholars, deans, or heads of research institutes who will provide you with a sense of how a new study fits into the existing research literature. These should be people who will: (a) get back to you, (b) speak in clear terms that you can understand, and (c) are measured in their responses.
9. When you seek out sources of a report, keep in mind the possible biases behind the research. Ask yourself the following questions:
 - Who funds this organization/researcher?
 - Who runs the organization?
 - Where are they located?
 - Do they have an obvious political orientation or affiliation?
 - Why are they conducting this research?

Guide to Education Research for Journalists

Sources

The following list provides a sampling of the most commonly used organizations and sources for education research.

GOVERNMENT SOURCES			
Name	URL	What it is	What it does
NCES- National Center for Education Statistics	http://nces.ed.gov/	Government-funded site that is part of the Institute of Education Sciences	Provides statistics on all levels of education, from preschool to adult education, for every state.
NCER- National Center for Education Research	http://ies.ed.gov/hcer/	One of four main government-funded centers within IES	Supports research to improve education and achievement in the United States. Can search through 20 research program topics.
NCEE- National Center for Education Evaluation	http://ies.ed.gov/hcee/	One of four main government-funded centers within IES	Evaluates and reports on federal programs such as Early Reading First and DC Scholarship Opportunity.
WWC- What Works Clearinghouse	http://ies.ed.gov/hcee/wc/ or http://tinyurl.com/ypebuo	One of four main government-funded centers within IES	Rates studies based on methodology. Summarizes effectiveness of programs. They consider experimental studies the “gold standard.”

GOVERNMENT SOURCES continued

Name	URL	What it is	What it does
NCSER- National Center for Special Education Research	http://ies.ed.gov/hcser/	Government site	Highlights research on children with disabilities and the regulation of these programs.
Division of Behavioral and Social Sciences and Education	http://www7.nationalacademies.org/dbase/ or http://tinyurl.com/3r9xcp	Part of the NRC- National Research Council	Examines issues that link education policy with scientific research, using research and quantitative data to inform classroom teaching and school-based decisions.
National Institutes of Child Health and Human Development	www.nichd.nih.gov/about/org/crmc/cdb/prog_elsr/index.cfm or http://tinyurl.com/4ag86w	Part of the National Institutes of Health. Conducts an Early Learning and School Readiness Program to examine school readiness issues, especially in the early grades.	Investigates aspects of human development to understand developmental disabilities and other issues. Research in early learning program examines children's needs from birth to age 8 to prepare them to learn and succeed in school. Identifies necessary interventions to support learning and development.

ONLINE RESEARCH SITES: These sites are great tools for searching for research articles on almost any topic in education.

Name	URL	What it is	What it does
ERIC – Education Resources Information Center	www.eric.ed.gov/	Sponsored by U.S. Department of Education and Institute of Education Sciences	Provides free access to more than 1.2 million bibliographic records of journal articles and other education-related materials from 1966 to present.
AEA- American Educational Research Association	www.aera.net	Research organization focused on improving education by encouraging scholarly inquiry related to education and evaluation	Promotes the dissemination and practical application of research results. Lists all publications on a range of topics.
EPAA- Education Policy Analysis Archives	http://epaa.asu.edu/	Joint project by Arizona State University and the University of South Florida	Links to recent, downloadable research articles. Researchers can also submit articles or commentary.
Google Scholar	http://scholar.google.com/schhp?hl=en&tab=ws or http://tinyurl.com/jpw953	Search engine for the most widely used studies	Allows searches that yield a wide array of articles accompanied by the number of times and papers where an article has been cited.

THINK TANKS			
Name	URL	What it is	What it does
LMRI- University of California Language Minority Research Institute	www.lmri.ucsb.edu	Funds the research of UC faculty and graduate students	Provides information on educational issues affecting linguistic minorities as well as racial and ethnic minorities and immigrants. Disseminates research findings through several types of publications, all available on the site.
Thomas B. Fordham Institute	www.edexcellence.net/institute/global/index.cfm or http://tinyurl.com/ypw953	Washington, D.C.-based conservative research institute supported by the Ohio-based Fordham Foundation. Only think tank solely researching education. Focused on standards-based reform in education.	Produces reports on the quality of state standards and testing, charter schools, teachers unions. Led by education scholar Chester Finn.

<p>Brookings Institution</p>	<p>www.brookings.edu/ Education division: www.brookings.edu/ topics/education.aspx or http://tinyurl.com/47uyd5</p>	<p>Washington, D.C.-based nonprofit, liberal, public policy organization</p>	<p>Conducts independent research to advance innovative, practical public policy recommendations. Education division covers more than a dozen education-related topics.</p>
<p>New America Foundation</p>	<p>www.newamerica.net Education page: www.newamerica.net/ issues/education or http://tinyurl.com/495fte</p>	<p>D.C.-based centrist nonprofit public policy institute</p>	<p>Sponsors research, writing, conferences and public outreach on global and domestic issues, including education. Education issues include NCLB, teaching quality, and closing the achievement gap.</p>
<p>Manhattan Institute</p>	<p>http://www.manhattan- institute.org/</p>	<p>NYC-based conservative policy research organization</p>	<p>Focuses on improving two main reforms of public education: school choice and accountability, especially in urban areas.</p>
<p>American Enterprise Institute</p>	<p>www.aei.org/</p>	<p>D.C.-based conservative organization. One of the largest think tanks.</p>	<p>Focuses on empirical work related to K-12 school reform. Issues include federal policy, school governance, choice-based reform, school and district leadership, teacher quality.</p>

THINK TANKS continued

Name	URL	What it is	What it does
The Urban Institute	www.urban.org	Forty-year-old independent, nonprofit, center created by the Lyndon Johnson administration.	Analyzes policies, evaluates programs, and informs community development to improve social, civic, and economic well-being. Works in United States and in 28 countries. Reports and scholarly books available online.
Center on Education Policy	www.cep-dc.org	D.C.-based independent advocate for public education and more effective public schools	Produces publications, convenes meetings, makes presentations and provides expert advice to states, school districts, civic organizations, businesses, and others on numerous education issues. Has received nearly all of its funds from foundations.
Aspen Institute	www.aspeninstitute.org	International nonprofit organization focused on open-minded dialogue and leadership and nonpartisan inquiry.	Uses seminars, structured networks, analysis, policy programs, conferences and leadership development initiatives to foster dialogue and impact policy. Education policy areas include teacher leadership, high school reform, urban superintendents network.



National Center on Education and the Economy	www.ncee.org	Focuses on workforce development, school leadership, and other education policy issues.	Conducts research and analysis and develops training, professional development and materials for education practitioners.
NONPROFIT RESEARCH FIRMS: These organizations are hired to provide research and evaluation for the government, foundations, universities, and so on. Some also initiate their own research.			
Name	URL	What it is	What it does
American Institutes for Research	www.air.org	Behavioral and social science research organization	Education and human development division looks at assessment, school finance, early childhood, special education, and other topics.
Learning Point Associates	www.learningpt.org	Nonprofit educational organization that uses research-based knowledge to improve education	Provides evaluation, policy analysis, and research. Large contracts with the federal government to work on education issues. Areas of expertise include after-school programming, school improvement, literacy, teacher quality, and technology.
MDCRC	www.mdrc.org/	Nonprofit research organization that conducts large-scale evaluations of real-world policies and programs targeting low-income people	Provides analytically rigorous, quantitative studies, with an emphasis on improving education for the poor, including after-school programs and school reform.

NONPROFIT RESEARCH FIRMS continued

Name	URL	What it is	What it does
RAND	www.rand.org/education	Nonprofit that helps improve policy and decision-making through research and analysis	Education research and development includes assessment, school reform, and teaching practices. Site has downloadable publications.
WestEd	www.wested.org	Well known for its evaluation work	Focuses on education issues with an emphasis on achieving educational equity. Research studies divided into experimental, quasi-experimental, case studies, and survey categories.
McREL- Mid-Continent Research for Education and Learning	www.mcrel.org/	Nonprofit created to help educators bridge the gap between research and practice through applied research, product development, and service	Focuses on topics ranging from school leadership and professional development to instruction in a diverse classroom and school-wide reform measures.

CALDER: National Center for Analysis of Longitudinal Data in Education Research

www.caldercenter.org

Joint research program by Duke University's Urban Institute, Stanford University, and other universities. One of the new federally funded National Research and Development Centers, supported by a \$10 million grant from U.S. DOE.

Analyzes data on individual students and teachers over time to see how state and local policies affect teachers and students. Databases in Florida, Missouri, New York, North Carolina, Texas, and Washington state represent the initial core of research focus.

Mathematica Policy Research Inc.

www.mathematica-mpr.com

or
<http://tinyurl.com/zx399>

Nonpartisan firm that conducts policy research and surveys in health care, education, welfare, employment, nutrition, and early childhood issues.

Uses scientifically based methods to evaluate education programs and study education policy issues from early childhood through college.

Clients include charter schools, urban school districts, nonprofit organizations, and foundations.

SRI International

www.sri.com/focus_areas/education.html

or
<http://tinyurl.com/44egsa>

Independent, nonprofit scientific research institute that conducts client-sponsored research and development.

Covers education under the “policy issues” focus area. Examines impact of policies and the effectiveness of programs at the federal, state, and local level, including community services, special education, school partnerships, and early childhood programs. Clients include government agencies, commercial businesses, and foundations.

UNIVERSITY-BASED RESEARCH CENTERS

Name	URL	What it is	What it does
CPRE— Consortium for Policy Research in Education at the University of Wisconsin-Madison	www.wcer.wisc.edu/cpre/ or http://tinyurl.com/6orb3c	Collaboration of five top research universities with a mission to improve student learning through research on education reform, policy, and finance.	Focuses on education reform and finance issues, including teacher compensation and school finance.
The Think Tank Review Project	http://epicpolicy.org/think-tank-review-project or http://tinyurl.com/68we88	Joint project between the Education Policy Research Unit at Arizona State University (http://eps.asu.edu/epru/index.htm) and the Education and the Public Interest Center at the University of Colorado (www.epicpolicy.org).	Provides reviews of selected think-tank publications. Main funding comes from the National Education Association.
CRESST – National Center for Research on Evaluation, Standards, and Student Testing	www.cse.ucla.edu	Based at UCLA. Federally funded center that studies the design and use of educational assessment systems.	Conducts evidence-based research using models-based accountability research. Heavy focus on studying and improving evaluation and assessment designs and quality.



Wisconsin Center for Education Research	www.wcer.wisc.edu	One of the oldest and largest education research centers in the U.S. Part of the University of Wisconsin-Madison's School of Education.	Researchers conduct basic and applied education research. Projects on education research include teaching, learning, and professional development; educational policy and accountability; higher education, and more.
Center for Urban Education	www.gse.berkeley.edu/research/urbaned/Center_urban_ed.html or http://tinyurl.com/436fqm	UC-Berkeley-based organization	Researches ways to improve the quality of education for students in low-income urban areas, and promotes dialogue between UC researchers and school practitioners about strategies to improve urban schools.
SRN Leads – School Redesign Network: Leadership, Equity and Accountability in Districts and Schools	www.srnleads.org	Stanford University-based research group	Conducts and shares research to transform secondary schools and school systems. Supports research on school redesign and hosts institutes, seminars, and leadership/study tours.

Guide to Education Research for Journalists

Glossary & References



Glossary of Education Research Terms

Causation

The act or process of causing (e.g., providing water and sunlight to most plants causes them to survive and grow). Often confused with correlation.

Comparison group

A group chosen for comparative purposes because it is matched with or similar to the treatment group (except that it does not receive the treatment).

Control group

A group in an experiment randomly assigned not to receive the treatment. For example, in a medical study, those in the control group might receive a placebo instead of the drug being tested.

Correlation

A measure of the linear relationship between two variables. An example: height and weight are positively correlated; tall people tend to weigh more, while short people tend to weigh less. However, one's height does not cause one's weight (or vice versa). They are related, but one does not directly cause the other. Often confused with causation.

Cross-sectional data

Data collected by observing many subjects (e.g., individuals, companies or countries) at the same point in time, or without regard to differences in time. Analysis of cross-sectional data usually consists of comparing the differences among the subjects. An example: comparing the scores of all different groups of students who took the SAT in 2007.

Dependent variable

Usually the outcome variable, or the response that is measured, which is not manipulated.

Effect size

The magnitude of a program or treatment's effect, such as the difference between control or comparison groups and treatment groups. In order to compare effect sizes across different measures and different studies, researchers

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calculate effect size statistics that essentially standardize the effect size, putting the magnitude of the program's impact onto a comparable scale, usually in standard deviation units.

External validity

Are the results generalizable? If so, to what extent? Does this study only apply to a narrow, specific situation?

Floor and ceiling effects

These occur in assessments when there is a lack of sensitivity to changes at the extremes of the distribution. For instance, imagine if people are asked at two distinct points in time to rate their overall happiness on a scale of 1-5. For those whose initial answers are at the extreme (1 or 5), there is no way to measure change over time; this is problematic and can lead to biased results in the study. In the above scenario, it is quite possible that some of the people initially at the extremes are, when asked a second time, even happier or more sad than before – but the assessment tool is unable to measure this.

Independent variable

The variable that the study is testing and applying to the group being studied.

Longitudinal data

Data from the same subjects collected at multiple intervals (e.g., months or years). Longitudinal data, unlike cross-sectional data, allow one to study change over time in individual subjects across numerous variables.

Mean

Average of a set of data.

Median

The midpoint in a group of scores. Often confused with the mean (or average).

Mode

The score in a group of scores that occurs most frequently.

Pre-test and post-test

A pre-test is an initial measurement (usually of achievement) of what a student knows and is able to do. A post-test is given to determine how much a student has learned since the pre-test.

***Random assignment***

In a study with random assignment, every participant in the sample has an equal likelihood of being assigned to the different conditions; not to be confused with random sampling.

Random sampling

Study in which every person in the population has an equal likelihood of being chosen for the sample.

Randomized field trial (RFT)

Widely considered the gold standard in education research, such experiments randomly treat individuals and even whole institutions such as schools with different interventions in order to learn which work better. The random allocation ensures that the two groups being compared are not different in ways that would influence their response to a particular treatment.

Reliability

Consistency, replicability.

Statistical significance

The results are almost certainly not occurring by chance. A “p-value” indicates the confidence with which one can be certain that something is not occurring by chance. Many researchers in the social sciences aim for p-values of 0.05, 0.01 or 0.001 (meaning that they are, respectively, 95 percent, 99 percent or 99.9 percent certain something is not occurring by chance).

Standard deviation

In essence, the average distance from the mean. If the standard deviation is small, most scores are fairly close to the mean, but if it is large, the scores vary widely. The wider the distribution of scores, the less meaningful is the average.

Treatment group

A group randomly assigned to receive a specific treatment (e.g., an educational intervention, such as reducing class size).

Variable

Something of interest to be measured that can have different values (e.g., test score, height, age). Variables can be discrete (finite number of values) or continuous (infinite number of values). 



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Additional references:

Class notes from Dr. Madhabi Chatterji's course at Teachers College, "Evaluation of Institutions, Programs, and Curricula I," spring 2005.

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Teachers College, Columbia University

PO Box 127 | 525 West 120th Street
New York, New York 10027
<http://hechinger.tc.columbia.edu>