

Research Literacy 101

A guide for parents & educators — how to evaluate education research, tell correlation from causation, spot bad claims, and become a savvy consumer of “the studies show” headlines.

The world's largest education resource.

Online since 2004, K12 Academics has helped millions of families, students and educators **find the right school, college, camp, business and program in their community** — for every kind of learner.

NOT ALL "EVIDENCE" IS EQUAL

Education is full of confident claims — "this program boosts scores," "screens harm learning," "the research proves." Some are solid; many are hype, cherry-picked, or misread. **Research literacy** is the skill of telling the difference. This guide gives parents and educators the essentials in **ten steps**.

General guidance. This guide teaches how to think about research; it is educational and not a substitute for expert statistical or scientific advice. When decisions matter, consult multiple high-quality sources and qualified experts.

Why Research Literacy Matters

WHAT TO KNOW

Education decisions — for your child, your classroom, your school — are constantly shaped by **research claims**. Being able to tell strong evidence from weak protects you from hype, fads, and costly mistakes.

BY THE NUMBERS

Claims everywhere

programs, products, policies

Protects you

from hype & fads

Better decisions

for kids

HOW TO HELP

Approach every “research shows” claim with **curiosity and healthy skepticism** — not blind trust, and not blanket dismissal, but real evaluation.

GOOD TO KNOW

The goal isn’t cynicism — it’s **discernment**: knowing which evidence to trust and how much.

Correlation Is Not Causation

WHAT TO KNOW

The single most important idea: **two things moving together doesn't mean one causes the other**. Kids who read more may score higher — but reading might not be the cause; other factors could drive both.

BY THE NUMBERS

Together $\neq$ causes

the key trap

Third factors

may drive both

Ask

what else could explain it?

HOW TO HELP

When you see a link, ask: **could something else explain it?** Correlation is a clue to investigate, never proof that one thing causes another.

WATCH OUT

"Students who do X score higher" almost never proves X *causes* higher scores — watch for this everywhere.

Understand Study Types & Samples

WHAT TO KNOW

How a study was done matters enormously. **Randomized controlled trials (RCTs)** can show causation; observational studies show only links. And a **small or unrepresentative sample** can't support big conclusions.

BY THE NUMBERS

RCTs

can show causation

Observational

links only

Sample

size & representativeness

HOW TO HELP

Check **how the study was designed and who it studied** — an RCT with a large, representative sample is far stronger than a small observational one.

GOOD TO KNOW

A study of 30 students at one school can't tell you what works nationally — sample size and representativeness matter.

Look at Effect Size, Not Just Significance

WHAT TO KNOW

“Statistically significant” only means an effect probably isn’t random — not that it’s **big or meaningful**. Always ask about the **effect size**: how much difference did it actually make in the real world?

BY THE NUMBERS

‘Significant’

not = important

Effect size

how big is it?

Real-world

does it matter?

HOW TO HELP

Look past “significant” to **how large the effect is** — a real but tiny effect may not be worth changing anything over.

WATCH OUT

A “significant” finding can be **trivially small** — always ask how much difference it really made.

Distrust Single Studies

WHAT TO KNOW

One study rarely settles anything. Findings need to **replicate**, and the strongest evidence comes from **meta-analyses and systematic reviews** that combine many studies. Be wary of conclusions from a single paper.

BY THE NUMBERS

One study

not proof

Replication

the real test

Meta-analysis

the gold standard

HOW TO HELP

Weight **the body of evidence** over any single study — a meta-analysis or systematic review beats one paper, however striking its headline.

WATCH OUT

Cherry-picking one favorable study while ignoring the rest is a classic trick — look for the overall pattern.

Check the Source & Funding

WHAT TO KNOW

Ask **who did the research and why**: Is it peer-reviewed? Published by a credible source? Is it funded by someone with a stake in the result (like a company selling the product being studied)? Conflicts of interest matter.

BY THE NUMBERS

Peer-reviewed?

+ credible source

Who funded it?

conflicts of interest

Who benefits?

follow the motive

HOW TO HELP

Check whether research is **peer-reviewed, credibly published, and independently funded** — a company's study of its own product deserves extra scrutiny.

GOOD TO KNOW

A study funded by the company selling the program isn't worthless — but it warrants healthy skepticism.

Spot the Common Red Flags

WHAT TO KNOW

Learn to recognize **warning signs**: sensational headlines, {1}studies show{2} with no citation, anecdotes dressed as evidence, fear or miracle appeals, cherry-picked stats, and claims that sound too good (or too alarming) to be true.

BY THE NUMBERS

Hype headlines

+ no citation

Anecdotes

≠ evidence

Too good/bad

to be true

HOW TO HELP

Treat **sensational, uncited, anecdote-driven, or fear/miracle claims** as red flags — and dig for the actual study behind the headline before believing it.

WATCH OUT

"A friend's kid" and "studies show" (with no source) are **not evidence** — demand the actual research.

Read Test Scores & Data Wisely

WHAT TO KNOW

Education data has its own traps. Know that a **percentile** is a rank, not a percent correct; that **averages hide variation**; and that a single test is one snapshot. Context and comparison matter.

BY THE NUMBERS

Percentile

a rank, not % correct

Averages

hide the spread

One test

one snapshot

HOW TO HELP

Interpret scores and data **carefully** — understand what a percentile, average, or proficiency level actually means before drawing conclusions (see our Standardized Testing guide).

GOOD TO KNOW

A drop in an average could hide a rise for most students — data always needs careful, contextual reading.

Read Education Research as a Parent/Teacher

WHAT TO KNOW

You don't need to be a scientist — just ask good questions: **What kind of study? How many, and who? How big is the effect? Has it replicated? Who funded it? What's the catch?** A few questions filter most bad claims.

BY THE NUMBERS

Ask questions

a simple checklist

Design, size, effect

the essentials

Filter

most bad claims

HOW TO HELP

Run any claim through a **quick mental checklist** — study type, sample, effect size, replication, funding — to sort strong evidence from weak in minutes.

GOOD TO KNOW

You can evaluate research well with **curiosity and a few key questions** — no statistics degree required.

Be a Savvy Consumer of Claims

WHAT TO KNOW

Put it together: approach education claims with **informed skepticism**, seek out the actual evidence, weigh the whole body of research, and stay humble — good conclusions are provisional and open to new evidence.

BY THE NUMBERS

Informed skepticism

the right stance

Whole body

not one study

Stay humble

evidence evolves

HOW TO HELP

Be the person who **asks for the evidence and evaluates it fairly** — it protects your decisions, models critical thinking, and cuts through the noise.

GOOD TO KNOW

Good research literacy is quietly powerful — it makes you a wiser advocate for kids and a harder target for hype.

The Research Red-Flag & Question Checklist

Quick questions to evaluate any education study or claim, and the red flags that should make you skeptical.

Ask: what kind of study?

RCTs can show causation; observational studies show only correlation. Design determines how much you can conclude.

Ask: how many, and who?

Small or unrepresentative samples can't support broad claims. Bigger, representative samples are stronger.

Ask: how big is the effect?

"Statistically significant" isn't the same as meaningful — look for the effect size and real-world impact.

Ask: has it replicated? Who funded it?

Trust the body of evidence (meta-analyses) over single studies; watch for conflicts of interest.

Red flags

Hype headlines, "studies show" with no source, anecdotes as evidence, fear/miracle appeals, cherry-picked stats, too-good-to-be-true claims.

EVIDENCE, NOT HYPE

Find Your Community.

Explore our Standardized Testing guide, State of Education reports, and data volumes — among **1,297 free resources** grounded in real evidence.

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