



Glossary of Terms

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***Note:** Some terms in this glossary may have multiple meanings depending on the context with which they are used. Every effort has been made to ensure that the definition provided reflects the terms use as it relates to evidence-based practices.*

Section 8101(21)(A) of the *Every Student Succeeds Act* defines **evidence-based** as an activity, strategy, or intervention that demonstrates statistically significant effect on improving student outcomes or other relevant outcomes based on...

1. strong evidence from at least 1 well-designed and well-implemented experimental study;
2. moderate evidence from at least 1 well-designed and well-implemented quasi-experimental study; or
3. promising evidence from at least 1 well-designed and well-implemented correlational study with statistical controls for selection bias; or
4. demonstrating a rationale based on high-quality research findings or positive evaluation that such activity, strategy, or intervention is likely to improve student outcomes or other relevant outcomes and includes ongoing efforts to examine the effects of such activity, strategy, or intervention.

Analytic Sample – the sample on which an analysis is based.

Attrition – the progressive loss of data or subjects during a research study. Attrition occurs when study participants leave the study before the study is complete. Studies with low attrition are generally considered to be more reliable than studies with high attrition (WWC Standards Handbook v. 4.0).

Baseline – the starting point from which performance is measured and targets are set.

Baseline Equivalence – a term used to describe whether or not the intervention group and the comparison group were similar enough at the start of a study. When baseline equivalence is established, the reader can have greater confidence that outside variables did not influence the study results. Baseline equivalence can sometimes be achieved through statistical adjustments (WWC Standards Handbook v. 4.0).

Causal Inference – the process of drawing a conclusion that an activity or intervention was likely to have affected an outcome.

Cluster Level Assignment – an experimental or quasi experimental study design in which students are assigned to groups in clusters and data for analysis are based on students within clusters (WWC Standards Handbook v. 4.0).

Confounding Factor – an element of a study that aligns with one study group but not the other. For example, if an intervention group consists of only English-language learners, and the control group includes only native English speakers, then language acquisition would present a confounding factor that may skew the results of a study (WWC Standards Handbook v. 4.0).

Correlational Study – a study design that relies on observational data (collected by the researcher in a natural environment without interference), archival data (publically available data reported by local and state education agencies), or survey data (collected by the researcher through anonymous surveying) to draw a statistical, or correlational, conclusion. Correlation does not equal causation but may suggest that an intervention could have a positive impact on a population.

Effectiveness of an Intervention – measured in a rigorous study as the difference between the average outcome for the two groups in the study.

Effect Size – a standardized measure of the magnitude of a difference.

Evidence Level – the Every Student Succeeds Act (ESSA) defines four levels of evidence (1) Strong Evidence, (2) Moderate Evidence, (3) Promising Evidence and (4) Demonstrates a Rationale (Non-Regulatory Guidance: Using Evidence to Strengthen Education Investments).

Experimental Study – a study design in which two *randomly assigned* groups of study participants are compared to determine if an intervention was successful. One study group, the intervention group, receives the intervention. The other group, the control group, does not receive the intervention. By comparing the two groups, researchers are able to measure the effect of an intervention (WWC Standards Handbook v. 4.0).

Individual Level Assignment – an experimental or quasi-experimental study design that assigns individual study participants to either an intervention or a control group and compares the outcome data at the student level (WWC Standards Handbook v. 4.0).

Large Sample – an analytic sample of 350 or more students (or other single analysis unit), or 50 or more groups (such as classrooms or schools) that contain 10 or more students (or other single analysis units). Multiple studies can be combined to meet the large sample requirement, as long as each study meets the other requirements corresponding with the specific level of evidence (Non-Regulatory Guidance: Using Evidence to Strengthen Education Investments).

Local Capacity – available funding, staff resources, staff skills, and support for the implementation of an intervention.

Logic Model – a well-specified conceptual framework that identifies key components of the proposed process, product, strategy, or practice (i.e. the active “ingredients” that are hypothesized to be critical to achieving the relevant outcomes) and describes the relationships among the key components and outcomes, theoretically and operationally (EDGAR).

Multi-Site Sample – an analytic sample that consists of more than one site, where site can be defined as an LEA, locality, or state. Multiple studies can be combined to meet the large sample requirement, as long as each study meets the other requirements corresponding with the specific level of evidence (Non-Regulatory Guidance: Using Evidence to Strengthen Education Investments).

Needs Assessment – the process of determining the needs in a school or district; typically conducted in consultation with a broad range of stakeholders and through an examination of relevant data.

Null Hypothesis – the hypothesis that there is no statistically significant relationship between two variables.

p value – a statistical reporting measure used to describe outcome significance. It is generally accepted that a study with a p value of $<.05$ describes a statistically significant outcome.

Performance Measure – any quantitative indicator, statistic, or metric used to gauge program or project performance (EDGAR).

Population – the student demographics at a school, including but not limited to gender, race, ethnicity, and socio-economic status.

Quasi-Experimental Study – a study design in which two *previously assigned* groups of study participants are compared to determine if an intervention was successful. One study group, the intervention group, receives the intervention. The other group, the control group, does not receive the intervention. By comparing the two groups, researchers are able to measure the effect of an intervention (WWC Standards Handbook v. 4.0).

Random Assignment – a study design process in which the researchers place study participants into groups completely by chance, such as a lottery or coin flip method. Studies using random assignment are considered to be more rigorous than studies that rely on other assignment protocols. Generally, comparing data collected from two previously assigned classrooms is not considered random assignment because most schools use a structured method for determining the placement of students (WWC Standards Handbook v. 4.0).

Relevant Outcome – the student outcome(s) (or the ultimate outcome if not related to students) the proposed process, product, strategy, or practice is designed to improve; consistent with the specific goals of a program.

Reliability – the dependability or consistency of a measure.

Setting – the urbanicity of a school, typically described as rural, suburban, or urban.

Stakeholders – State Education Agencies, Local Education Agencies, schools, educators, and partner organizations

Standard deviation – the variability of a measure across the observations in a sample.

Statistical Adjustment – adjustments made to a data set to reduce bias.

Study – a detailed investigation and analysis of a subject or situation.

Study Bias – a systematic alteration in the way that data is analyzed that may skew the results. Common forms of bias in educational studies include confirmation bias, sampling bias, selection bias and interviewer bias.

WWC Evidence Standards – the standards set forth in the What Works Clearinghouse Procedures and Standards Handbook (version 4.1, January 2020).