

WWC QUICK REVIEW PROTOCOL, VERSION 2.0¹

What Works Clearinghouse (WWC) quick reviews are designed to provide education practitioners and policymakers with timely and objective assessments of the quality of the research evidence from recently released research papers and reports. These reviews focus on studies of the effectiveness of education or school-based interventions serving students in the pre-kindergarten through 12th-grade age range, as well as those in a postsecondary setting.

A. Eligibility Criteria

To be eligible for a WWC quick review, a study must meet both of two criteria:

1. *The study must be released recently and reported on in a major national news source or a major education news publication.* To determine whether new education research is reported in major national news sources, the WWC monitors major news sources, news clippings, news aggregator services, and blogs.
2. *The study must examine the effectiveness of an intervention (e.g., a program, policy, or practice) that affects student outcomes.* For the purposes of this criterion, relevant programs, policies, or practices could affect academic and/or nonacademic student outcomes.

B. Methods

Quick reviews describe the study design, key outcomes, and the intervention; rate the study using WWC evidence standards; and summarize the study findings on key outcomes.

Describing the study design, key outcomes, and intervention

Quick reviews provide a brief description of the study design, including the data sources and methodology used to estimate intervention effectiveness. When a study employs more than one design or study sample to answer a research question, the quick review describes the design or study sample with the most valid evidence as determined by the WWC (see below for a discussion of evidence standards for quick reviews).

Quick reviews focus only on key outcomes, as determined by the principal investigator (PI) and deputy PI in consultation with a content expert in the outcome domain when appropriate. In general, key outcomes are those considered to be the most educationally relevant. They can include but are not limited to student achievement and student behavioral outcomes. Outcomes determined to be of secondary educational relevance also may be included if they are judged to be of high interest, as may outcomes highlighted in the media.

¹ Quick reviews released after August 31, 2010, were reviewed using the Version 2.0 August 2010 standards.

The intervention description provides a brief overview of the general features of the intervention. It also may include information deemed relevant for describing the intervention as implemented in the study.

Rating the study using WWC evidence standards

The study rating is a function of the study design, and different standards apply to different designs. The WWC considers four types of study designs: randomized controlled trials (RCTs), quasi-experimental designs (QEDs), regression discontinuity designs, and single-case studies.

Two certified reviewers apply the WWC evidence standards to review and code each study, and a third certified reviewer reconciles any discrepancies.² Quick reviews use WWC evidence standards in assigning one of three possible study ratings:

- *Meets WWC evidence standards.* This rating applies to well-executed randomized controlled trials, regression discontinuity studies, and single-case studies.
- *Meets WWC evidence standards with reservations.* This rating applies to quasi-experimental studies and randomized controlled trials, regression discontinuity studies, and single-case studies for which some validity issues are evident, as described in the WWC standards.
- *Does not meet WWC evidence standards.* This rating applies to studies that provide insufficient evidence of causal validity.

The quick review text reports the assigned rating and discusses the study's strengths and weaknesses if appropriate. When a study employs more than one design or study sample to answer a research question, the quick review rates the design or study sample with the most valid evidence as determined by the WWC. Within a given design, quick reviews may assign different ratings for analyses of different outcomes or important subgroups. When different ratings are assigned, quick reviews provide an explanation of each.

The key standard for evaluating RCTs is sample attrition. The key standard for QEDs is equivalence. The attrition and baseline equivalence criteria used for quick reviews can be summarized as follows:

1. *Attrition.* RCTs can receive the highest possible rating: Meets WWC evidence standards. In evaluating whether a RCT merits this rating, the WWC considers both overall and differential attrition between the intervention and control groups. Both contribute to potential bias of estimated effects. Quick reviews apply the thresholds for overall and differential attrition listed in the table below. Given a study's overall attrition, the table lists the highest level of differential attrition allowable in order to meet the attrition standard. For RCTs with combinations of overall

² For more information on WWC evidence standards, see the *WWC Procedures and Standards Handbook (version 2.0)*.

and differential attrition that exceed the thresholds, attrition is considered “high,” and, therefore, the study cannot attain the highest rating possible. Instead, RCTs with high attrition are considered QEDs and must, therefore, demonstrate baseline equivalence in order to receive the second-highest rating: Meets WWC evidence standards with reservations.

**HIGHEST LEVELS OF ATTRITION ALLOWABLE TO MEET
THE ATTRITION STANDARD FOR QUICK REVIEWS**

Overall Attrition	Differential Attrition	Overall Attrition	Differential Attrition
60	1.4	31	8.0
59	1.6	30	8.2
58	1.9	29	8.4
57	2.1	28	8.6
56	2.3	27	8.8
55	2.6	26	9.0
54	2.8	25	9.2
53	3.0	24	9.4
52	3.2	23	9.5
51	3.5	22	9.7
50	3.7	21	9.9
49	3.9	20	10.0
48	4.2	19	10.2
47	4.4	18	10.3
46	4.6	17	10.5
45	4.9	16	10.6
44	5.1	15	10.7
43	5.3	14	10.8
42	5.6	13	10.8
41	5.8	12	10.9
40	6.0	11	10.9
39	6.3	10	10.9
38	6.5	9	10.9
37	6.7	8	10.9
36	7.0	7	10.8
35	7.2	6	10.7
34	7.4	5	10.5
33	7.6	4	10.4
32	7.8	3	10.3

2. *Baseline equivalence.* RCTs with high attrition and all QEDs must demonstrate baseline equivalence between the intervention and comparison groups in the analysis sample in order to receive the rating Meets WWC evidence standards with reservations. The exact characteristics on which baseline equivalence must be demonstrated include baseline measures of the outcomes or baseline measures that are expected to be highly correlated with these outcomes (e.g., demographic characteristics that are known to be highly correlated with the outcome measures).

- a. Groups are considered equivalent if the reported differences in mean baseline characteristics of the groups are less than or equal to 5% of the pooled standard deviation in the sample. If this is the case, the equivalence standard is met, and the study can receive a rating of Meets WWC evidence standards with reservations. Statistical significance of the difference in means is not considered.
- b. If differences are greater than 5% and less than or equal to 25% of the pooled standard deviation in the sample, the study findings must be based on analytic models that control for the individual-level baseline characteristic(s) on which the groups differ. If this is the case, the equivalence standard is met, and the study can receive a rating of Meets WWC evidence standards with reservations. Otherwise, the study is rated Does not meet WWC evidence standards.
- c. Studies with baseline differences greater than 25% of the pooled standard deviation do not meet the baseline equivalence standard, regardless of whether or not the impacts are estimated using models that control for baseline characteristics. The study is rated Does not meet WWC evidence standards.
- d. Finally, when a study shows evidence of equivalence on a baseline measure of the outcome variable, but there also is evidence that the populations being compared are drawn from very different settings (such as rural versus urban, or high-SES versus low-SES), these settings may be deemed too dissimilar to provide an adequate comparison. In these cases, the study is rated Does not meet WWC evidence standards.

When reviews raise issues regarding attrition or equivalence that must be resolved in order to determine a study rating, the WWC submits a query to the study author(s). Authors are asked to respond to queries within five business days. Study authors are advised of the rating the study will be given if the WWC review team does not receive the requested information within the five-day period.

Summarizing study findings on key outcomes

The final section of the quick review contains a summary of the study findings for key outcomes that received the reported study rating. When more than one study rating was assigned, the quick review discusses findings separately for each rated component of the study. Quick reviews rely on effect sizes and significance levels as reported by study authors, and they do not adjust a study's estimates to correct for multiple comparisons or clustering, which do not affect the study rating. This section also may include comparative statements to aid laypersons in interpreting the magnitude of the study findings. When this is done, the source (e.g., WWC interpretation or author interpretation) is acknowledged.