

Does the What Works Clearinghouse Really Work?: Investigations into Issues of Policy, Practice, and Transparency

A NIFDI White Paper



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Executive Summary

The What Works Clearinghouse (WWC) was established in 2002 “**to be a central and trusted source of scientific evidence for what works in education.**” It has released over 700 intervention reports, quick reviews, and single study reviews, but these reports and the procedures and standards that guide them have received extensive criticism from multiple individuals and organizations. This report reviews criticisms of WWC publications and policies, errors identified in their publications, and issues regarding the transparency and accountability of the WWC. This review is based on findings from a series of Freedom of Information Act (FOIA) requests submitted by the National Institute for Direct Instruction (NIFDI) and subsequent appeals. Three conclusions appear clear: 1) The WWC suffers from a lack of transparency in their policies and guidelines, 2) the conclusions they create in their reports can be misleading, and 3) the reports are potentially damaging to program developers and ultimately the success of students.

The major concerns documented in these reports included the misinterpretation of study findings, inclusion of studies where programs were not fully implemented, exclusion of relevant studies from review, inappropriate inclusion of studies, concerns over WWC policies and procedures, incorrect information about a program developer and/or publisher, and the classification of programs. Multiple inquirers documented how the WWC made conclusions about study findings that did not align with **the authors' conclusions, and** in some instances reported totally different conclusions. Over 80 percent of the requests for Quality Reviews involved concerns with misinterpretations of study findings. Misinterpretation of study findings appeared to result from both procedural errors of individual reviewers, but also from WWC policies, often including the **WWC's refusal** to consider fidelity of implementation when determining the effectiveness rating of an intervention.

Although many changes were made in response to these Quality Reviews, multiple errors remained. The WWC primarily corrected minor errors, but not the larger errors that misled readers and tarnished the reputation of program developers and study authors. The most blatant errors remaining involved the misinterpretation of study findings. These errors involved both the inclusion of inappropriate studies and the exclusion of appropriate studies.

One of the major concerns with the inclusion of inappropriate studies involved the issue of poor implementation fidelity in a study. This lack of attention to fidelity is especially disturbing given the key role of fidelity to internal validity of research designs.

The primary cause of these problems is the policies and standards established by the WWC and their focus on an exclusive approach to evaluating research. The WWC uses a **“threshold,” rule-based** approach to examining studies, excluding those that do not meet a set list of criteria including, most prominently, a preference for randomized control trials (RCTs). Yet, empirical studies show that this approach results in very different results than would come from a more inclusive approach typical of the social sciences.

In general, review of the FOIA documents provided makes it apparent that there is great concern on how WWC reports are conducted and reviewed. It is reasonable to predict additional errors may exist in other WWC reports, but these errors have not been identified and reported, and gone through the Quality Review process. The wide range of errors documented and the multitude of reports with errors create doubt in the ability of the WWC to accurately report on the effectiveness of education programs and be a trusted resource.

The WWC may provide valuable resources that determine what works and doesn't work in education, but the variety and multitude of errors documented in their reports tarnishes their reputation as a trusted and reliable resource. The actual number of errors in their published reports are unknown, and their negative effect on the field of education is unclear, but troublesome. Educators and school boards rely on WWC reports to provide **accurate information on what works and what doesn't, but these reports can't be trusted.** With a halo of uncertainty surrounding the WWC and their publications, all future reports must be scrutinized to assess whether they accurately reflect the available research and can they be trusted as a useful tool in determining what works.

Does the What Works Clearinghouse Really Work?: Investigations into Issues of Policy, Practice, and Transparency¹

The What Works Clearinghouse (WWC) was established in 2002 by the Institute for **Education Sciences (IES) at the U.S. Department of Education**. Their mission is “to be a central and trusted source of scientific evidence for what works in education” (What Works Clearinghouse, 2013, pp. 1). The WWC conducts analyses on available research, covering multiple subjects and populations, to determine the effectiveness of specific instructional programs.

The WWC has released over 700 publications in the form of intervention reports, quick reviews, and single study reviews. These reports and the procedures and standards that guide them have received extensive criticism from multiple individuals and organizations **since the organization’s inception (Wood, 2014; Stockard & Wood, 2016)**. These criticisms have come from study authors, program developers, and education researchers. Their concerns cover a wide range of areas and question whether the WWC is fulfilling their mission. This report reviews criticisms of WWC publications and policies, errors identified in their publications, and issues regarding the transparency and accountability of the WWC. The basis of this review comes from findings from a series of Freedom of Information Act (FOIA) requests submitted by the National Institute for Direct Instruction (NIFDI) and subsequent appeals. These FOIA requests sought information on two intervention reports² and all Quality Reviews (QR)³ conducted by the WWC in response to concerns of perceived errors in WWC reports. **The nature of the concerns and the WWC’s response to these errors** are described in the first section. The second section specifically addresses issues of accountability, and the final summary section discusses policy implications.

History of FOIA Requests and Appeals

Concerns about the structure, policies, and publications of the WWC have been documented since its inception (American Evaluation Association, 2003). Several

¹ The author gratefully acknowledges the assistance and guidance of Jean Stockard in the analysis of the discussed documents. All conclusions and opinions in this document are, however, the sole responsibility of the author.

² One intervention report summarized the effectiveness of the Direct Instruction program, *Reading Mastery*, on the reading achievement of students with learning disabilities. (See Stockard 2008, 2014a & 2014b for analyses of problems with these reviews.) The second intervention report summarized the effect of the reading program, *Reading Recovery*, on the reading achievement of students. (See Stockard & Wood 2013a & 2013b for issues with these analyses.)

³ Quality Reviews are conducted by the WWC when an individual has concerns about potential inaccuracies in WWC publications.

commentators have raised questions regarding the accuracy of WWC reports, including the ways in which conclusions vary from published summaries and meta-analyses (Confrey, 2006; Greene, 2010; Hempenstall, 2014; Shoenfeld, 2006; Sloane, 2008; Stockard, 2008, 2013, 2014a; Stockard & Wood, 2012). In response to growing concerns about WWC publications, policies, and their response to these concerns, the NIFDI Office of Research & Evaluation filed three separate FOIA requests beginning in July 2013. These requests were made to better understand the development and review of WWC publications and how the WWC responded to perceived errors in these reports. The sections below summarize concerns expressed by those requesting Quality Reviews, the response of the WWC, and issues regarding the Quality Review and FOIA processes.

User Concerns

In the fall of 2013, in partial response to the FOIA requests, the NIFDI Office of Research & Evaluation received over 3,700 pages of emails regarding WWC's Quality Reviews that had been conducted up to that point in time. From 2007 to the fall of 2013, the WWC conducted 62 Quality Reviews in response to the concerns of 54 organizations, study authors, program developers, teachers, and education researchers. As summarized in Wood (2014), the documents provided revealed alarming concerns about the accuracy of WWC reports⁴ and the procedures and standards that guide them. An additional FOIA request filed in September of 2014 provided additional documentation related to seven Quality Reviews conducted after the initial FOIA request (Fall 2013).⁵ This documentation provided additional examples of the errors and concerns documented in previous Quality Reviews.

The major concerns documented in these reports included the misinterpretation of study findings, inclusion of studies where programs were not fully implemented, exclusion of relevant studies from review, inappropriate inclusion of studies, concerns over WWC policies and procedures, incorrect information about a program developer and/or publisher, and the classification of programs. The frequency of these concerns is documented in Table 1, showing how often these issues were addressed and what percentage of the Quality Reviews dealt with these issues. Note that over 80 percent of the

⁴ The WWC publishes three types of reports: intervention reports, single study reviews, and quick reviews. The Quality Reviews obtained through the FOIA request were conducted in response to concerns over the information presented in all three types.

⁵ The WWC provided documents related to seven Quality Reviews and as in the previous FOIA requests there appeared to be missing documents relating to the internal communications of the WWC during the Quality Review process.

requested reviews dealt with misinterpretations of study findings. Multiple Quality Reviews related to the same concerns and WWC publications.

Among the most serious errors identified was the exclusion of relevant research (35% of Quality Reviews), the inclusion of inappropriate studies (39% of Quality Reviews), and the misinterpretation of study findings (82% of Quality Reviews). The WWC's inclusion of inappropriate studies became evident in the concerns of numerous Quality Reviews. Inquirers were greatly concerned about the inclusion of studies that misrepresented the design of a study and the effectiveness of an intervention. Inquirers were concerned that the inclusion of these studies created an inaccurate review of a program. There was additional concern over how this misinformation about the design of a program was promoted in WWC reports.

Table 1
Reasons for Requesting a Quality Review of WWC Findings, 2007 to Spring 2014

<u>Reasons for requesting a Quality Review</u>	<u>Number of reports addressing this issue</u>	<u>Percentage of Reports</u>
Misinterpretation of study findings	57	82%
Inclusion of studies where programs were not fully implemented	16	23%
Exclusion of relevant studies from review	24	35%
Inappropriate inclusion of studies	27	39%
Concerns over WWC policies and procedures	28	40%
Incorrect information about a program and/or developer	6	9%
Classification of a program	2	3%

Note: Percentages are calculated from a base of 69 Quality Reviews.

The most shocking and severe errors documented in these Quality Reviews were the **WWC's repeated misinterpretation of study findings. Multiple inquirers documented how the WWC made conclusions about study findings that did not align with the authors'** conclusions and, in some instances, reported totally different conclusions (Stockard & Wood, 2013b). Over 80 percent of the requests for Quality Reviews involved concerns with misinterpretations of study findings, which appears to indicate that this example of WWC

errors is far from unique. Misinterpretation of study findings could occur from procedural errors of individual reviewers. Yet, numerous Quality Reviews indicated that errors resulted from WWC policies, specifically, the WWC decision not to consider the fidelity of implementation when determining the effectiveness rating of an intervention, an area that is discussed in greater detail in the next section.

WWC Response

As a result of these Quality Reviews, the WWC concluded revisions were necessary 41 times, although none of the revisions were as extensive or thorough as those who had requested the review felt was needed. The WWC conclusions about two of the Quality Reviews were not included in the documents sent to the NIFDI Office of Research & Evaluation. By removing these two Quality Reviews when calculating the percentage of reports that were revised, the WWC determined it was necessary to revise a publication 61 percent of the time (41 of 67 reviews). The changes made were conducted to provide greater clarity on the review process and the selection of studies, provide greater clarity on the classification of studies reviewed, change the classification ratings of a study or studies, reclassify a program, provide greater clarity on the description of a study, provide greater clarity on the level of implementation in a study, remove a study or studies from consideration in an intervention report, add a study or studies in the review of a program, or change a summary judgment of a program. A summary judgment was only changed for the intervention report on *Reading Mastery* for students with learning disabilities. The summary judgment was changed from potentially negative effects to no discernable effects, despite overwhelming evidence of positive effects in studies that did not pass WWC standards. **The WWC's summary judgment was based on only one study that compared two very similar Direct Instructions programs. This study reported that both programs had a positive impact on students' reading ability** with students in both groups demonstrating significantly larger gains than state and national norms. **The WWC's interpretation was that one program was not better than the other so an effect could not be determined.** A summary of the changes made for each review is available in Appendix C.

Despite the changes made in response to these Quality Reviews, multiple errors remained. The WWC primarily corrected minor errors identified in these reports, not the larger errors that misled readers and that tarnished the reputation of program developers and study authors. The most blatant errors remaining involved the misinterpretation of study findings. These errors involved both the inclusion of inappropriate studies and the exclusion of appropriate studies. Even with the high percentage of reports revised and the multitude of

errors corrected, many more reports should have been revised and many more errors should have been corrected.

One of the major concerns with the inclusion of inappropriate studies involved the issue of **poor implementation fidelity in a study**. The WWC's policy on examining the impact of implementation fidelity in relation to the effectiveness of a program is unclear and troubling. The WWC will examine issues with implementation fidelity, but will only remove a study from consideration if it uses *no* aspects of an instructional program. In other words, if an implementation uses only a few elements of a program or implements a program only partly or in ways other than how it was designed, it will be described as though it were the actual program. This lack of attention to fidelity is especially disturbing given the key role of fidelity to internal validity of research designs. If a research study does not implement a program as it was designed or intended to be used, the results of the study are clearly invalid. It is impossible to tell if an effect (or lack of an effect) is related to the intervention as designed or to the changes made with alternative implementations.⁶ Moreover, with poor fidelity of implementation less effective programs will be deemed to be more effective while high quality programs will be determined to be less effective (see Fixsen et al., 2005; Stockard, 2010; Stockard, 2016; Stockard & Wood, 2016 for discussions of the importance of fidelity of implementation).

In general, review of the documents provided makes it apparent that there is great concern on how WWC reports are conducted and reviewed. The WWC determined revisions were necessary in 61% of the Quality Reviews conducted. If the WWC evaluated implementation fidelity in relation to the effectiveness of a program, one would expect a much higher percentage of these reports being revised as well.

Missing Information: The Quality Review and FOIA Processes

The WWC Handbook describes the procedures for conducting Quality Reviews, and the requirement of documenting all actions and conversations by WWC employees to ensure that every review is conducted appropriately. The *WWC Procedures and Standards Handbook* states

⁶ In documents retrieved from Quality Review 2008-012, the WWC acknowledged reviewing studies with varying levels of implementation fidelity. The WWC stated “To be both informative to educators and comprehensive, the review includes evaluations of interventions in ‘real world’ settings. This means that studies that do not follow all prescribed procedures for an intervention may still be eligible for review if the study’s implementation reflects how educators might implement the intervention in actual practice” (pp. 16).

After an inquiry is forwarded to the QRT, a team member verifies that the inquiry meets criteria for a quality review and notifies the inquirer whether a review will be conducted. A reviewer is assigned to conduct an independent review of the study, examine the original review and relevant author and distributor/developer communications, notify the topic area team leadership of the inquiry, and interview the original reviewers. Throughout the process, all actions and conversations are documented and logged. When the process is complete, the QRT makes a determination on the inquiry (2013, pp. A4).

By examining the email communications provided it is unclear how the WWC employees and contractors managed the Quality Review process and communicated with each other throughout the process, and to what extent this resembled the stated policy. A request for documents regarding all communications about the Quality Reviews involving WWC employees was outlined in the FOIA requests. However, only a very small portion of these documents were supplied so additional requests were made for these and other missing documents. The responses received and the associated process raised a number of concerns regarding transparency and responsiveness, as described below.

A significant amount of material was missing or appeared to be missing from the documents provided through the FOIA requests. Over thirty specific items mentioned in the documents provided were not included. The majority of these documents were eventually provided. However, the documents regarding the communications to and from WWC employees and contractors regarding the Quality Review process were never provided, beyond what was previously included. In general, the internal communications provided were relatively short emails from the WWC help desk asking other WWC employees how to address an issue regarding a Quality Review. Replies to the sender of these emails were not provided. It is possible the WWC conducts the majority of their communications in person or over the phone, but at the least one would expect more occurrences of emails from the WWC help desk regarding Quality Reviews. Additionally, this seems unlikely based on the email communications provided, where individuals ask specific questions through emails, in some instances to multiple employees. Even if the majority of conversations and actions were conducted in person or over the phone, members of the WWC Quality Review Team are required to track all actions and conversations during the Quality Review process. If WWC employees followed this procedure it would be expected to at least receive the logs of these actions and conversations if not additional emails. No such logs were provided for any of the 69 Quality Reviews provided.

In response to this missing information, two appeals were filed, in December 2014 and January 2015, to obtain information not included in the previous FOIA requests. The intention of these appeals was foremost to review all materials related to Quality Reviews, specifically all internal communications between WWC employees and contractors. If the internal communications were provided it would have hopefully provided greater insight into the Quality Review process, and whether WWC procedures and standards were followed in each review. The names of specific people involved were not of interest, but rather the nature of the discussion, the reasoning behind the decisions, and how conclusions were formulated.

The FOIA appeal process was significantly delayed for reasons not given by the FOIA office. Initial acknowledgments of the appeals and later responses to status updates of the appeals were received. After the expected deadline for a response passed, additional requests for status updates were not responded to or acknowledged. (For a full timeline of correspondence with the FOIA office see Appendix A.) Typically, responses for FOIA appeals are responded to within 20 working days (U.S. Department of State, n.d.). Without further communication from the FOIA office it became necessary to reach out to government representatives for assistance.⁷ Responses to our appeals were eventually received in April 2016, shortly after reaching out to support from regional representatives, and over one year after the appeals were filed.⁸ These responses indicated that the WWC had no internal communications or logs of communications and actions regarding the Quality Review process besides what was previously provided.⁹

⁷ The President of NIFDI reached out to Congressman DeFazio for assistance in receiving a response from the FOIA office. Additionally, a petition was created on moveon.org to ask the Congressman for assistance in this matter. The petition was sent to Congressman DeFazio on April 2, 2016 and the petition received over 50 signatures.

⁸ In response to the significant delays, Kathleen Styles, Chief Privacy Office for the U.S Department of Education, responded that “We respectfully note that FOIA is limited to requests for records and therefore questions regarding the delays in processing of your request are not appropriately addressed through the FOIA process.”

⁹ In her response, Kathleen M. Styles, Chief Privacy Officer for the U.S. Department of Education, wrote “Contrary to your assertions, the Department has not withheld such documents. To clarify, the Department has no records responsive to this portion of your request. While you have not alleged an inadequate search, I note that the adequacy of a FOIA search is determined not by the fruits of the search, but by the appropriateness of the methods used to carry out the search. *Iturralde v. Comptroller of Currency*, 315 F.3d 311, 315 (D.C. Cir. 2003). Nothing suggests that any documents were overlooked. Further, I have confirmed with IES that they do not have any record of conversations between contractors to which the Department was not a party, and that, under the terms of the contract, the contractors are not required to provide these materials to the Department. I therefore deny your appeal at this point.”

In response to this letter, clarification was requested on this issue, specifically the absence of logs documenting the Quality Review process. Kathleen M. Styles, Chief Privacy Officer for the U.S. Department of Education, acknowledged receipt of our questions on June 3rd, 2016, but no formal response was given until July 26th, indicating the existence of additional materials. These materials were not provided until September 20, 2016, after multiple requests for status updates and nearly two years after the original appeals were filed. The additional documentation provided additional internal communications and documentations regarding a select few Quality Reviews. While additional documentation was expected, clarification was provided by the FOIA office, indicating that all available material was provided.

Despite the requirement of logs documenting all conversations and actions during the Quality Review process, the final communication from Ms. Styles indicated that no such logs exist. Rather the WWC relies on all email communications received and sent through the WWC helpdesk to meet this requirement from the *Procedures and Standards Handbook*. Of the internal communications received through the FOIA process, none documented communications between individuals conducting the Quality Review, topic area team leadership, and the original reviewers. This lack of communications appears to directly contradict the process outlined in the WWC *Procedures and Standards handbook*.

Issues with Accountability

After reviewing all of the documents provided through the FOIA requests and appeals it became clear that the WWC publications examined in these Quality Reviews do not support **the WWC's statement that they “provide accurate information on education research”** (What Works Clearinghouse, n.d.). In fact, the number and variety of errors could be seen as severe and alarming. The errors range from simple mistakes of mischaracterizing an instructional program to including inappropriate studies in the review of an instructional program, resulting in an inaccurate rating of effectiveness. These Quality Reviews have clearly documented the multitude of errors in WWC reports and their negative consequences.

As alarming as the errors documented in these Quality Reviews are, it is equally worrisome that the WWC policies, procedures, and standards are not clear and consistently applied (For further discussion see Wood, 2014). With the information provided from the FOIA requests and appeals and the publicly available information on the WWC, three conclusions appear clear: 1) The WWC suffers from a lack of transparency in their policies

and guidelines, 2) the conclusions they create in their reports can be misleading, and 3) the reports are potentially damaging to program developers and ultimately the success of students.

It is apparent that there are problems with WWC publications, the policies and procedures that guide their development, and the oversight of WWC employees to ensure these policies and procedures are consistently applied. There are multiple reasons why these problems have developed and become ingrained within the WWC over time. The primary cause of these problems is the policies and standards established by the WWC and their focus on an exclusive approach to evaluating research.

Since its inception, the WCC has sought to apply best evidence standards to summarize the best available evidence of education programs. The WWC uses **a “threshold,” rule**-based approach to examining studies, excluding those that do not meet a set list of criteria including, most prominently, a preference for randomized control trials (RCTs). Thus, they assume, at least implicitly, that the most valid results of evaluations emerge from studies with these designs and, often, other characteristics. As summarized by Stockard & Wood (2016), this approach results in very different results than would come from a more inclusive approach typical of the social sciences.

Stockard & Wood reported that the exclusive, rule-based approach used by the WWC to develop best evidence reviews differs in a number of ways from traditional social science methodology. The screening criteria used by the WWC result in the selection of a narrow and homogeneous set of studies, thus making assessment of external validity more difficult. These criteria also result in the exclusion of studies that use designs traditionally seen as internally valid and especially appropriate for field settings. Standards may also further narrow the range of studies examined, with those involving multiple outcome measures as well as smaller samples and rural districts perhaps particularly affected. Additionally, **the WWC’s rule**-based method of developing summary ratings of effectiveness could potentially result in misleading conclusions regarding large bodies of literature and mask variations in results that would be an important element in establishing external validity of findings. Results from Stockard and Wood (2016) indicate that **the WWC’s threshold**-related criteria and standards had little impact on estimates of **program’s effectiveness. The estimates were unaffected by design characteristics, time of publication, presence and absence of stipulated confounds, and numerous other threshold-related characteristics.** They were also similar across characteristics of the students and schools. Their analysis sheds light on why a pattern of errors have developed in WWC

reports and suggests that more valid information would be provided by using a more inclusive approach to examining research studies.

The WWC appears to be well intended in their pursuit of the gold standard in research design, but unfortunately this focus has resulted in many unintended consequences that have not only affected the reputation of education researchers and program developers, but more importantly the intellectual potential of students. As evident in the multiple Quality Reviews conducted since 2007 and the concerns voiced by others,¹⁰ there appears to be a lack of oversight at the WWC or, at the least, relative indifference to these mounting concerns.

The various WWC criteria and standards were, no doubt, developed in good faith. Each, by itself, could potentially appear reasonable and appropriate. Yet, when taken together they seem to have resulted in a system that drastically limits information provided to the public and the accuracy of the conclusions presented. They also could encourage researchers to restrict the questions they examine and approaches they use.

It is clear that there is abundant evidence that the public is concerned about the WWC and the research reports they publish. Both the general public and education professionals have voiced their concerns, but the WWC has staunchly refused to alter their approach. Not only has the WWC not wavered on their reliance of their exclusive approach, they have actually increased the threshold for studies to meet their standards.

It became evident in reviewing the provided documents related to Quality Reviews that responses to concerns were often delayed and never quick enough to avoid publishing misinformation in numerous reports. Quality Review inquirers were often very upset with **the WWC's responses to their concerns (See Appendix B)**. On average, Quality Reviews were resolved in 11 months with some taking multiple years. Prior to publication, study authors and program developers are given a one-day notice of reports being published and thus one day to review and request a Quality Review. The WWC has never delayed publication of a report in response to Quality Review requests or obvious errors, instead

¹⁰ In 2003 the U.S. Department of Education solicited comments on a proposal to prioritize evaluation plans that utilized Randomized Control Trials and, under certain conditions, quasi-experimental designs. The Department of Education received close to 300 comments on their proposed priorities, and over 90 percent expressed concerns that the proposed priority would result in policy recommendations based on only part of the available literature, that some programs might remain unevaluated, and that the public could be deprived of a full and representative understanding of the research findings (American Evaluation Association, 2003).

deferring to completion of a Quality Review process. This, of course, allows potentially erroneous information to be published and circulated during the months that a Quality Review is conducted. This policy of leaving WWC publications posted online while a Quality Review is being conducted applies even when glaring errors are evident and have been reported. **The WWC's concern** about issues with their standards and procedures and potential errors within published reports is insufficient and alarming, given their status as a major resource in the education community.

Summary

Examination of the documents provided through the FOIA requests and appeals as well as other publicly available resources clearly indicates significant concern about the WWC, including the reports they produce, the standards and procedures that guide them, and the **organization's oversight and transparency**. **The WWC's publications have suffered from a** wide range of errors, their standards and procedures have been heavily criticized by multiple organizations and individuals, and the justification and explanation of WWC procedures and standards is not always clear. The multitude of errors identified in these reports highlight the unstable foundation of the organization as a trusted resource for what works in education.

In review of the FOIA documents provided, we know that sixty-nine Quality Reviews were requested by researchers, program developers, and study authors, representing multiple different academic programs from August 2007 until May 2014. The most common and most alarming of their concerns is the misinterpretation of study findings, which was evident in 82% of Quality Reviews. In review of their concerns, the WWC determined that 41 of 67¹¹ (61%) of the reports needed to be revised. Many more of these Quality Reviews would have been revised if the WWC evaluated the fidelity of implementation on the effectiveness of a program. Furthermore, it is reasonable to predict additional errors may exist in other WWC reports, but these errors have not been identified and reported, and gone through the Quality Review process. The wide range of errors documented in WWC reports, and the multitude of reports with errors, creates doubt in the ability of the WWC to accurately report on the effectiveness of education programs and be a trusted resource.

The reasons for the range and multitude of problems lies in the WWC's standards and procedures, and a lack of accountability. As discussed by Stockard & Wood (2016), the

¹¹ There was a total of 69 Quality Reviews, but only decisions on 67 were supplied. One report had not been concluded when documentation was received. One conclusion was not given through the FOIA requests and appeals.

WWC's exclusive approach to evaluating research has resulted in a limited and skewed view of what works in education and contrasts sharply with the more inclusive approach commonly used in the social sciences. In addition, **the WWC's approach to determining** best evidence has unfortunately not identified a key component to determining what works in education, measuring the fidelity of implementation. The WWC was too concerned about other categories such as date of publication, study design, and matching procedures than whether a program was implemented as designed. Yet in a meta-analysis of over 139 studies of one educational intervention Stockard and Wood found that the former variables had no significant relationship with estimates of effect size. In contrast, three variables not considered by the WWC – dosage, maintenance, and fidelity – all had strong and significant effects.

Apart from flaws in WWC standards and procedures is the apparent lack of oversight to prevent errors from going unnoticed. Many errors documented in the Quality Reviews could have been prevented if the WWC had followed their own review process and had worked with program developers and study authors to ensure information was correct prior to publishing. The failure to establish logs of all conversations and actions during the Quality **Review process as required by the WWC's Procedures and Standards Handbook** is a glaring example of the lack of oversight. Without a complete log of all actions and conversations, there is uncertainty in whether the WWC has followed their own procedures for conducting Quality Reviews and that all concerns have been given appropriate attention.

The WWC has received an abundance of suggestions to modify their standards and procedures to more accurately represent what works in education, but over time the WWC has added more restrictions to their approach, thus providing a more skewed evaluation (Stockard & Wood, 2016). Additionally, the WWC has actively avoided providing the justification for the application of some of their procedures such as the time cut off for studies. Furthermore, in review of the correspondences between the WWC and Quality Review inquirers, it is apparent the WWC is not entirely forthcoming in their decisions and actions, often being vague in their responses or entirely ignoring specific questions brought to them. Application of WWC procedures and standards vary on a case-to-case basis and in some instances WWC employees reference standards and procedures not published in their handbooks.

Over the past six years, the WWC has spent more than 48.5 million dollars, but what have they done to elucidate what works in education? They have created hundreds of reports, but because of their exclusive approach to evaluating research, these reports only provide a summary of a small percentage of the available evidence. And often their conclusions

are too vague, or provide no conclusions because no studies could pass their strict standards. Of the 565 intervention reports published, only 162 (29%) provide a summary judgment. On average, these summary judgments are based on 2.1 studies that meet evidence standards.¹² If only 29% of these intervention reports provide any sort of evaluation, is the WWC efficiently using their resources? The restrictive nature of WWC reviews has limited how they evaluate education programs, but has also resulted in millions of dollars spent to produce no clear evaluation of what works.

With the limited number of reports with summary judgements and the multitude of errors in these reports, the WWC has not proven to be a central and trusted resource for what works in education. With the substantial amount of federal funding the WWC receives and little to show for it, what value do they provide? The WWC may provide valuable resources that **determine what works and doesn't work in education, but the variety and multitude of** errors documented in their reports tarnishes their reputation as a trusted and reliable resource. The actual number of errors in their published reports are unknown, and their negative effect on the field of education is unclear, but troublesome. Educators and school boards rely on WWC reports to provide accurate information on what works and what **doesn't, but these reports can**not be trusted. The WWC has produced irreparable harm to **children's potential by publishing reports with misleading information**. With a halo of uncertainty surrounding the WWC and their publications, all future reports must be scrutinized to assess whether they accurately reflect the available research and can they be trusted as a useful tool in determining what works.

¹² These figures were calculated by examining every intervention report published on the WWC website. Each intervention report notes whether a summary judgment was determined and the number of studies that met WWC evidence standards for each intervention report.

Appendix A: Timeline of NIFDI FOIA Requests, Appeals, Petition, and Final Response

7/29/2013: NIFDI sends a FOIA request for material related to WWC reports on *Reading Recovery* and beginning reading in 2008 and 2013

7/29/2013: NIFDI sends a FOIA request for material related to WWC reports on *Reading Mastery* and students with learning disabilities in 2012 and 2013

7/29/2013: NIFDI sends a FOIA request for material related to WWC Quality Reviews conducted up to the fall of 2013

8/28/2013: Documents regarding WWC reports on *Reading Recovery* are sent to NIFDI by the U.S. Department of Education

8/29/2013: Documents regarding the WWC reports on *Reading Mastery* are sent to NIFDI by the U.S. Department of Education

11/19/2013: Documents regarding WWC Quality Reviews (2007-2013) are sent to NIFDI by the U.S. Department of Education

9/27/2014: NIFDI sends a FOIA request for material related to WWC Quality Reviews conducted since previous FOIA request (Fall 2013)

9/27/2014: NIFDI sends a FOIA request for missing documents not included in the FOIA request for WWC Quality Reviews

10/16/2014: Interim response to request for missing documents is sent to NIFDI by the U.S. Department of Education

11/5/2014: Final response to missing documents is sent to NIFDI by the U.S. Department of Education

12/5/2014: Appeal of exemption decisions regarding private information, specifically internal communications requested is sent to the FOIA office. Additionally, NIFDI appealed the decision of considering the documents to be "Not Departmental Documents"

12/10/2014: NIFDI requests a status update for FOIA request of Quality Reviews conducted since fall 2013

12/11/2014: FOIA office replied to NIFDI that they are still looking for all materials

1/7/2015: U.S. Department of Education sent documents regarding Quality Reviews conducted since fall 2013

1/27/2015: NIFDI files an appeal of exemption decisions regarding private information, specifically internal communications requested. Additionally, one document appeared to be missing from material sent on 1/7/2015

2/18/2015: NIFDI requested a status update for both appeals filed on 12/5/2014 and 1/27/2015

3/12/2015: Notice of receipt of appeals and tracking numbers for appeals were provided by the FOIA office. The FOIA office indicated a status update would be forthcoming

4/14/2015: NIFDI sent a request for a status update for both appeals filed on 12/5/2014 and 1/27/2015

4/14/2015: FOIA representative Robert Wehausen wrote "I will reach out to the necessary parties and provide you with an update as soon as I have information to share with you.
Thanks!"

5/26/2015: NIFDI requested a status update for both appeals filed on 12/5/2014 and 1/27/2015

6/5/2015: NIFDI requested a status update for both appeals filed on 12/5/2014 and 1/27/2015

4/12/2016: Letter from Arthur Caliguiran, FOIA Appeals Coordinator, to Congressman Peter Defazio stating that the appeals are still under review and hopes a final response will be provided within 30 days.

4/22/2016: Response from FOIA office to NIFDI office about appeal from 12/5/2014

4/22/2016: Response from FOIA office to NIFDI office about appeal from 1/27/2015

5/13/2016: NIFDI sent a letter to Kathleen M. Styles, Chief Privacy Officer for the U.S. Department of Education for clarification on response to appeals

6/3/2016: Response from Kathleen M. Styles to NIFDI stating the search will be revisited

7/21/2016: NIFDI requested an update on clarification questions from the FOIA office

7/26/2016: Response from Kathleen M. Styles to NIFDI apologizing for the delay and to expect the documents shortly

7/26/2016: Response from Arthur Caliguiran stating that additional documentation from previous Quality Reviews was identified and is being reviewed in order to be released

7/27/2016: NIFDI requested a response to two specific clarification questions from email on 5/13/2016, that were not addressed in last communication

8/29/2016: Follow-up email from NIFDI to Styles and Caliguiran emails from 7/26/2016, requesting an update on promised material and answers to previous questions

8/29/2016: Response from Caliguiran to NIFDI confirming receipt of previous email and indicating the materials are under review by the Office of the General Counsel and should be available in a couple of weeks

9/20/2016: Response from Styles to NIFDI with 1,300 pages of additional content

10/23/2016: Request from NIFDI to FOIA office to confirm that there are no additional documents related to other Quality Reviews not covered in the previously released materials from 9/14/2016

10/23/2016: Response from Caliguiran to NIFDI confirming receipt of email and providing notice of intent to reach out to the program office to address questions

11/22/2016: Response from Caliguiran to NIFDI explaining the absence of additional materials related to other Quality Reviews not covered in the previously released materials from 9/20/2016

Appendix B: Noteworthy Complaints of Dealing with the WWC from 2014-5

In the process of reading the emails regarding the Quality Reviews it became evident that many individuals **s not only disagreed with the WWC's findings, but were outraged by their treatment by the WWC.** The inquirers sought clarity relating to the WWC reports and the **policies of the WWC. These individuals' frustrations were in response to the WWC not** responding within a suitable time frame or within a time frame they provided, the lack of a response to specific issues, the unwillingness to speak via phone or in person, and general outrage over WWC conclusions and their experience working with the WWC. Below is a selection of excerpts from the Quality Reviews that highlight the level of frustration and disappointment individuals expressed during the Quality Review process.

1. Representative of a Charter Association to a study author: "We need to find the live **humans... who** are we dealing with?" (QR2008-009, pp. 8).
2. Director of Educational Research to Mark Dynarski, Director, WWC: "Developers, researchers, and educators all have a stake in ensuring that the WWC produces the most accurate information possible. I strongly encourage you to reconsider the Bullock study in the Accelerated Reader Intervention report because it simply is not a valid study of Accelerated Reader" (QR2008-012, pp. 4).
3. Author of an instructional program to Mark Dynarski, Director, WWC: "I am writing to protest the content and nature of the research summary, and to request that it be rewritten to more truthfully reflect what was done by AIR and what was found in the study. What you have is inaccurate, misleading, and undeservedly harmful to the reputation of LETRS" (2008-013, pp. 1).
4. Library of Congress, Congressional Research Service employee to the WWC: I think the letter you sent does little or nothing to address the matters my e-mail brought up" (QR2009-008, pp. 9). "It seems to me that a case could be made that WWC is engaged in false advertising, for this Quick Review, if it does not highlight these things. Simply because the WWC Evidence Standards do not address this situation does not seem to be an adequate response. If we go back to what experimental design is all about, then the WWC's lack of standards here makes the WWC's rating and commentary, that the RCT is well-implemented (and therefore reliable as a guide to "what works"), potentially false. Congress and the President are making (and have already made) public policy on the basis of these study findings" (pp. 10).

5. Study author to WWC: "I am writing to offer some feedback on the article as it is written because I think it mischaracterizes our findings a bit in the section: what did the authors report. It says: 'Among African-Americans, students offered a reward based on individual performance had lower scores than those offered no reward.' This language completely misses the point by failing to mention what was present in the learning context in which AA students thrived. The study is after all, an examination of what factors students find motivating in group learning. We found that AA & EA students were motivated by different things. It should say something more like: AA students performed better in the learning context that stressed sharing and cooperation (without extrinsic reward) than in the one which stressed interpersonal competition for an extrinsic reward. Given your mission to provide educators with tools to make informed decisions, I hope that you will be able to make appropriate changes to the document. Otherwise a teacher might be lead to for example, simply omit extrinsic reward without emphasize sharing and cooperation, which could be disastrous" (QR2010-007, pp. 1).

6. School psychologist to WWC: "I did not submit a study. I submitted a summary of a study, because the WWC failed to understand that the Iverson and Turner study that met the WWC standards with reservations concluded that Reading Recovery would be effective IF it was less rigid and its proponents willing to incorporated systematic phonics/phonemic awareness activities as part of its methodologies. I submitted the summary because I do not understand how the WWC concluded that Reading Recovery is an 'effective' beginning reading program. Its theoretical underpinnings are the subject of controversy, it does not stay current with research, it relied on whole language methods, and the studies that met the WWC's standards (a total of 4) were all conducted by Reading Recovery advocates. I have found serious flaws in at least 3 of the studies, and it amazes me that the WWC reached its conclusions about 'effectiveness' on these studies. I have asked repeatedly about this, was told that I would get a reply to my questions, and to date, have never received such. I believe, as do most serious reading educators (as well as respected researchers) that the WWC failed to live up to its promise to be a trusted entity examining effectiveness of educational programs" (QR2010-009, pp. 9).

7. Education researcher to WWC: "My goodness, what good does your organization do if none of the Reading Programs studies meet your standards. My wife teaches and loves the results from Reading Mastery. Really, either you folks' standards are impossible or the textbook companies are not interested in having you make a determination. Either way you are of no help... after all of this time you can't give the slightest bit of advice as to which programs work best." (QR2010-010, pp. 1) "After 8 years of study you have not found any

regular reading program that fits the requirements of your research criteria that has had a positive impact of student learning? Didja ever think that maybe those requirements are so strict as to make the effort a hopeless cause?... So I am sorry to give you a hard time with this because I doubt if it has been your personal responsibility to do things this way. But you guys are not being paid to study the issue forever, you are being paid to help school districts find those courses that are most effective at teaching kids. At least in the area of beginning reading for the average classroom. You have not provided any of the information that you were set up to provide. Reading Recovery is the exception but that does not apply to the regular classroom. Who do I need to talk to? My senators? My congressman? Arne Duncan? Who can change things so you can do the job you were set up to do?... Go ahead, try to find one review on your site of a beginner reading program that works best for average k-2 students" (pp. 2).

8. Study author to WWC: "There appears to be a HUGE mistake in the report as it suggests we had high rates of sample attrition and that this attrition differed substantially across the treatment and control groups. This is absolutely untrue, and we are puzzled how that conclusion was drawn (of the many who have reviewed the paper, none have come to a similar conclusion). None of our tables or results point to the concern highlighted in the WWC report, and we are baffled at the percentages reported on page 2 concerning sample attrition. How were these even calculated? It is worth noting that the way we track our sample using administrative data prevents such sample attrition. We are extremely concerned that the WWC is about to put out an inaccurate report about our work" (QR2010-011, pp. 1).

9. Study author to Mark Dynarski, Director, WWC: "Clearly the reviewers only glanced over our crucial baseline report and failed to see that most of it provides exactly the evidence of equivalence **that they claim the study lacks**... As to the one-page report, it is hard to believe so many errors could be made in so few words" (2010-016, pp. 3).

10. Research Scientist, Oregon Research Institute to WWC: "It took about five minutes reading the papers to see that the reviewers got this one wrong. However, the misinformation that this review presents could potentially undo much of what the WWC strives to achieve" (2011-001, pp. 15).

11. Classroom teacher to Susanne James-Burdumy, Principle Investigator, Methodological Lead - WWC Adolescent Literacy Review Team, Beginning Reading Review Team: "I am writing you with a real concern about the What Works Clearing House website. While I have shared the website with other educators and encouraged them to use this site for RTI

research, I can no longer encourage the use of the site while it misrepresents one of my favorite intervention tools, **Read Naturally**" (2012-006, pp. 2).

12. Reading Specialist, Learning Disability Specialist, Consultant, Cal Poly State University) to WWC: "I have read your report and I understand that you followed your usual procedures for your studies. But as a serious researcher, and someone who wants to know the truth about programs that can help children, when so few programs have succeeded, I am still not satisfied with your WWC evaluation... Your evaluation that it is not 'what works' based on your inadequate approach to its implementation, is a disservice to all teachers and students who desperately seek meaningful help. If your evaluations lead to teachers not choosing the program, you share in the responsibility for all of the students they will not reach. Please evaluate the program again, using the procedural steps and consistency that are part of following the program" (2012-010, pp. 3).

13. Study author to WWC: "So it appears that you err in favor of damaging researchers rather than in giving them their best chance to show you why your report is inaccurate, Nice!" (2012-016, pp. 7).

Appendix C: Summary of Changes Made in Quality Reviews

<u>Quality Review</u>	<u>Changes Made</u>	<u>Program/Study Reviewed</u>
QR2007-001	No	<i>Reading Recovery</i>
QR2007-002	Yes. Report revised to clarify the timeframe of the literature review.	<i>100 Book Challenge</i>
QR2007-003	No	Direct Instruction/ <i>Reading Mastery</i>
QR2008-001	Yes. Report revised to correct previous conclusion about attrition levels.	Roberts & Neal (2004). "Relationship among preschool English language learners' oral proficiency in English, instructional experience and literacy development"
QR2008-002	Yes. Report revised to correct the classification of the program.	<i>Opening Eyes to Math</i>
QR2008-003	No	New Century Education Software
QR2008-004	Yes. Report revised to correct developer and publisher information.	First-Grade Peer Assisted Literacy Strategies
QR2008-005	No	<i>I CAN Learn</i>
QR2008-006	No	<i>Reading Recovery</i>
QR2008-007	No	P. Weisberg (1988). "Direct Instruction in the Preschool "
QR2008-008	No	Direct Instruction/ <i>Reading Mastery</i>

QR2008-009	No	Toney, A., & Murdock, D. (2008). "Charter School Performance in Los Angeles Unified School District: A District and Neighborhood Matched Comparison Analysis"
QR2008-010	Yes. Report revised to clarify descriptions of studies included in the review.	<i>Success for All</i>
QR2008-011	Yes. Report revised to clarify the level of implementation in a study and the description of another study.	<i>Read Naturally</i>
QR2008-012	No	<i>Accelerated Reader/Reading Renaissance</i>
QR2008-013	Yes. Report revised to modify the description of the study to reflect level of implementation.	Garet et al. (2008). "The impact of two professional development interventions on early reading instruction and achievement"
QR2009-001	Yes. Report revised due to error with rating of effectiveness.	<i>New Chance, Reading Recovery, Wilson Reading, Kaplan Spell Read, Corrective Reading, Failure Free Reading</i>
QR2009-002	Yes. Report revised to clarify the level of implementation in a study.	<i>Wilson Reading System</i>
QR2009-003	Yes. Report revised to remove inaccurate description of research on High/Scope Preschool Key Experiences Series, Booklets and Videos.	<i>High Scope</i>
QR2009-004	No	<i>Reading Recovery</i>

QR2009-005	Yes. Report revised to modify conclusions on the attrition rates of two studies.	<i>Doors to Discovery</i>
QR2009-006	No	<i>Reading Recovery</i>
QR2009-007	No	<i>Reading Recovery</i>
QR2009-008	No	U.S. Department of Education's Student Mentoring Program
QR2010-001	No	Agodini, R. et al. (2009). "Achievement Effects of Four Elementary School Math Curricula"
QR2010-002	No	Glazerman, S. et al. (2008). "Impacts of Comprehensive Teacher Induction: Results from the First Year of a Randomized Controlled Study"
QR2010-003	Yes. Report revised to clarify the cutoff date for the literature search.	<i>Scott Foresman Reading Street, SuccessMaker Enterprise, Connected Mathematics Project</i>
QR2010-004	Yes. Report revised to clarify the cutoff date for the literature search.	<i>100 Book Challenge</i>
QR2010-005	No	Corcoran, S. P., Schwartz, A. E., & Weinstein, M. (2009). "The New York City Aspiring Principals Program: A School-Level Evaluation"
QR2010-006	No	Cognitive Tutor Algebra 1
QR2010-007	Conclusion not provided.	Hurley, E. A., Allen, B. A., & Boykin, A. W. (2009). "Culture and the Interaction of Student Ethnicity with Reward Structure in Group Learning"

QR2010-008	Yes. Report revised to note that one study reviewed did use a control group.	<i>Success for All</i>
QR2010-009	No	<i>Reading Recovery</i>
QR2010-010	No	<i>Reading Mastery</i>
QR2010-011	Yes. Report revised, but specific changes are unknown because the WWC did not send their formal response to this issue.	Bettinger, E. P. et al. (2009). "The role of simplification and information in college decisions: Results from the H&R Block FAFSA experiment"
QR2010-012	No	Center for Research on Education Outcomes (2010). "Charter School Performance in New York City"
QR2010-013	Yes. 4 reports were revised to more accurately describe the <i>Read Naturally</i> strategy and <i>Read Naturally</i> programs. Reports were also revised to clarify the level of implementation.	<i>Read Naturally</i>
QR2010-014	Yes. Report revised to clarify attrition rates.	Puma, M. et al. (2010). "Head Start Impact Study: Final Report"
QR2010-015	No	<i>Reading Recovery</i>
QR2010-016	Yes. Report revised to clarify the matching procedure used.	Cowen, J. M. et al. (2010). "The Milwaukee Parental Choice Program Longitudinal Educational Growth Study Third Year Report"

QR2010-017	Yes. Report revised to clarify WWC findings.	Slavin, R. E. et al. (2010) "Reading and Language Outcomes of a Five-Year Randomized Evaluation of Transitional Bilingual Education"
QR2010-018	Yes. Report revised to clarify the description of a study.	AVID
QR2011-001	Yes. Report revised to remove a study from the analysis of <i>Reading Mastery</i> and change the summary judgment.	<i>Reading Mastery</i>
QR2011-002	No	<i>University of Chicago School Math Project</i>
QR2012-001	Yes. Report revised to include additional data from a study previously not reported.	<i>I CAN Learn</i>
QR2012-002	Yes. Report revised to clarify the level of implementation in one study.	<i>Read Naturally</i>
QR2012-003	Yes. Report revised to clarify the level of implementation in one study.	<i>Read Naturally</i>
QR2012-004	Yes. Report revised to clarify the level of implementation in one study.	<i>Read Naturally</i>

QR2012-005	Yes. Report revised to clarify the level of implementation in one study.	<i>Read Naturally</i>
QR2012-006	Yes. Report revised to clarify the level of implementation in one study.	<i>Read Naturally</i>
QR2012-007	Yes. Report revised to clarify the level of implementation in one study.	<i>Read Naturally</i>
QR2012-008	Yes. Report revised to clarify the level of implementation in one study.	<i>Read Naturally</i>
QR2012-009	Yes. Report revised to clarify the level of implementation in one study.	<i>Read Naturally</i>
QR2012-010	Yes. Report revised to clarify the timeframe of the literature review.	<i>Read Naturally</i>
QR2012-011	Yes. Report revised to correct errors about study findings and clarify WWC procedures in their analysis.	Finkelstein, N. (2010). "Effects of Problem Based Economics on high school economics instruction"
QR2012-012	Yes. Report revised to remove a study from the analysis of <i>Reading Mastery</i> and change the summary judgment.	<i>Reading Mastery, Reading Recovery</i>

QR2012-013	Yes. WWC database updated to include the preliminary and final version of the study.	Jackson, C. K. (2007). "A little now for a lot later: A look at a Texas advanced placement incentive program."
QR2012-014	Yes. Report revised to remove a study from the analysis of <i>Reading Mastery</i> and change the summary judgment.	<i>Reading Mastery</i>
QR2012-015	Yes. Report revised to provide greater clarity on the study findings.	Slavin, R. E. (2010). "Reading and Language Outcomes of a Five-Year Randomized Evaluation of Transitional Bilingual Education"
QR2012-016	No	Center for Research on Education Outcomes (2012). "Charter School Performance in New Jersey"
QR2013-001	Yes. <i>Reading Mastery</i> intervention report revised to note the report was revised from a previous version that contained errors. <i>Reading Recovery</i> intervention report revised to clarify the study disposition for Baenen et al. (1997).	<i>Reading Mastery, Reading Recovery</i>
QR2013-002	Yes. Report revised to clarify the description of <i>Read Naturally</i> .	<i>Read Naturally</i>

QR2013-003	Yes. Report revised to clarify the WWC's analysis of a perceived caution.	Study on Fraction Challenge
QR2014-001	Yes. Revised wording in the report to provide greater clarity.	National Charter School Study 2013
QR2014-002	Yes. Report revised to remove multiple errors	Reading Mastery
QR2014-003	No	Read Naturally WWC Quick Review of Fryer, R. G. (2011). Financial incentives and student achievement: Evidence from randomized trials
QR2014-004	No	WWC Single Study Review of the Report "Expanding College Opportunities for High-Achieving, Low Income Students"
QR2014-005	No determination	Helping Students Navigate the Path to College: What High Schools Can Do Practice Guide
QR2014-006	No	

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