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/B+AD4- Mark Dynarski+ADw-BR+AD4APA-B+AD4-Sent:+ADw-/B+AD4- Sunday,  
December 02, 2007 4:25 PM+ADw-BR+AD4APA-B+AD4-To:+ADw-/B+AD4-  
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mailto:jeans+AEA-uoregon.edu+AF0- +ADw-BR+AD4APA-B+AD4-Sent:+ADw-/B+AD4-  
Sunday, December 02, 2007 12:30 PM+ADw-BR+AD4APA-B+AD4-To:+ADw-/B+AD4- Mark  
Dynarski+ADw-BR+AD4APA-B+AD4-Subject:+ADw-/B+AD4- Questions on What Works  
Clearing House Procedures+ADw-BR+AD4APA-/FONT+AD4APA-BR+AD4APA-/DIV+AD4-  
+ADw-DIV+AD4APA-/DIV+AD4-Dear Dr. Dynarski:+ADw-BR+AD4AJg-nbsp+ADsAPA-  
BR+AD4-I am a sociologist with many years of experience in quantitative research and recently  
began working with the National Institute for Direct Instruction (NIFDI). One of my first tasks  
was to read as much of the background research in the area as I could. Along the way I ran into  
the +IBw-What Works Clearinghouse.+IB0- In my review I developed several questions that I  
am hoping you can answer.+ADw-BR+AD4AJg-nbsp+ADsAPA-BR+AD4-First, I noticed that  
the WWC has listed relatively few of the studies that deal with Direct Instruction. While a few  
were rejected because they didn't meet some specific standards of design, it appears that  
many others were rejected because they were published before 1985. I have not been able to find  
a scientific justification for selecting this date. No studies were cited that suggested  
children+IBk-s learning styles had altered after that time or that schools+IBk- organizational  
structures or teachers+IBk- actions had changed. In fact, the only research article that I found to  
justify the methods was actually published in 1974 +IBM- 10 years prior to the beginning of  
your targeted dates. This article dealt with phonological awareness, and had nothing to do with  
systematic literature reviews and, of course, included nothing to suggest that processes related to  
phonological awareness have changed over time. +ADw-BR+AD4AJg-nbsp+ADsAPA-  
BR+AD4-In all the other areas with which I am familiar we use the full range of research articles  
and, unless there are clear reasons established through the research literature, do not set an  
arbitrary date for inclusion or exclusion of results.+ACY-nbsp+ADs- The choice of this date

seems to have particularly affected the DI literature because a great deal of the pioneering work was published before the cut-off point. Because I+IBk-m new to this particular work, I wondered if you could provide me with any explanation based in the research literature for your choice of this cut-off year. I did find a suggestion that, +IBw-if sufficient time and resources remain,+IB0-studies published before 1985 might be reviewed. Do you know if this step will be taken? From my reading of the literature I believe that your limit on dates of studies may have seriously limited the selection of effective resources that educators will find on your website+ADs- and I know that this is a primary aim of your project.+ADw-BR+AD4AJg-nbsp+ADsAPA-BR+AD4-Second, I noticed that a number of studies were rejected because they included children outside the K-3 grade range. I found this somewhat unusual, for the children that are most in need of effective instruction are those who have not learned to read by older ages. Because the effectiveness of DI has been so well demonstrated with regular students at the K-3 grade range, the more recent focus on other ages seems only greater evidence of its worth. This is especially so in the case of special education students and those with behavioral and other issues. Thus, I couldn+IBk-t understand the rationale of omitting all the studies that targeted these most needy students. Any explanation you might have of this decision would also be greatly appreciated.+ADw-BR+AD4AJg-nbsp+ADsAPA-BR+AD4-Third, and perhaps most important, as I read studies more closely I found that the Clearinghouse+IBk-s interpretation of some of the studies didn+IBk-t seem to accurately reflect the actual content of the reports. I know that these reviews are often done by staff members or graduate students who might not be familiar with all of the intricacies of social research. Thus, I assume that we can send corrections and they will be added. +ADw-BR+AD4AJg-nbsp+ADsAPA-BR+AD4-I look forward to hearing from you, either through e-mail (+ADw-A href+AD0AIg-mailto:jeans+AEA-uoregon.edu+ACIAPg-jeans+AEA-uoregon.edu+ADw-/A+AD4-) or by phone (541-346-5005). I+IBk-m sure that we share the ultimate goal of helping all students +IBM- no matter what their background +IBM-develop academic skills and appreciate your appreciate your help.+ADw-BR+AD4AJg-nbsp+ADsAPA-BR+AD4-Sincerely, +ADw-BR+AD4APA-BR+AD4APA-X-SIGSEP+AD4-+ADw-P+AD4APA-/X-SIGSEP+AD4-Jean Stockard, Professor Emerita+ADw-BR+AD4-Department of Planning, Public Policy, and Management+ADw-BR+AD4-University of Oregon+ADw-BR+AD4-Eugene, Oregon 97403-1209+ADw-BR+AD4-phone: 541-346-5005+ADw-BR+AD4-fax: 541-346-2040 +ADw-/P+AD4APA-/BODY+AD4APA-/HTML+AD4-

From: don@nifdi.org  
Sent: Wednesday, September 05, 2007 3:41 PM  
To: What Works  
Subject: IES Website: Questions about WWC policies

What Works Clearinghouse, This email was automatically sent through the Contact link on the WWC website.

From: don@nifdi.org Last Page: <http://ies.ed.gov/ncee/wwc/>

Message: 1. How does a group, such as a DI research group, give corrective input on already completed reports?

2. How would we ensure that a DI Research consortium would be contacted before you do reports on DI? And who are you currently contacting for Direct Instruction questions?

3. What mechanism is used to gather relevant studies on a given program? Do we submit studies or do you collect them on your own? How do we ensure that you have a complete set of studies before drawing conclusions?

From: don@nifdi.org  
Sent: Friday, August 31, 2007 1:54 PM  
To: What Works  
Subject: IES Website: Technical research questions

What Works Clearinghouse, This email was automatically sent through the Contact link on the WWC website.

From: don@nifdi.org Last Page: <http://ies.ed.gov/ncee/wwc/>

Message: The National Institute for Direct Instruction has questions regarding the research base on DI such as: Which studies have been reviewed and rejected? Is there a mechanism to see comments or rationale from reviewers regarding rejections? How do we submit other studies? What are the details for accepting or rejecting QED studies, such as regression discontinuity and single subject studies? We'd like to begin with a phone call please. You can reach me, Dr. Don Crawford, at (877) 485-1973. I also left a voice message yesterday and today.

From: don@nifdi.org  
Sent: Wednesday, September 05, 2007 3:43 PM  
To: What Works  
Subject: IES Website: WWC technical questions

What Works Clearinghouse, This email was automatically sent through the Contact link on the WWC website.

From: don@nifdi.org Last Page: <http://ies.ed.gov/ncee/wwc/>

Message: 1. It is not unusual to see studies in which there are implementations of Direct Instruction (DI) programs in which the program is used without fidelity of implementation. How does WWC guard against drawing conclusions about a program based on lack of fidelity to the model rather than flaws in the model itself?

2. Are general questions (such as the following) appropriately addressed to the PI or is there someone else to ask?

a) For a QED (quasi-experimental design) is it necessary for comparison schools to be identified ahead of time, or can they be identified after the fact as appropriate demographic comparisons in the same geographic area?

b) In single subject design, is it necessary to have an A/B/A design or would an A/B design be adequate (reading once learned doesn't go away)? Or would "lack of improvement" be an adequate control when the intervention was removed?

c) For a QED would pre-test measures which showed control group to be superior at the outset be adequate, as opposed to exactly equivalent, if no covariant is used to make up for the initial head-start and the experimental group still is significantly ahead of the control group at the end of the study?

d) How recent does research need to be to be included?

**From:** Amy Johnston [ajohnston@nifdi.org]  
**Sent:** Thursday, December 06, 2007 11:03 AM  
**To:** Eaton, Elizabeth C  
**Subject:** RE: What Works Clearinghouse

**Follow Up Flag:** Follow up  
**Flag Status:** Red  
Ms. Eaton,

Please see below for questions that I submitted in October 2007, but have not yet received a response to. The research committee that I am a member of is trying to plan for the upcoming school year and having answers to these questions is critical to our ability to do so effectively. Please note that I have included a new question in addition to those previously submitted.

2<sup>nd</sup> set of questions submitted in October (pasted from email below):

- 1) I understand that the Beginning Reading review is still active. However, is there a specific time frame for specific programs. For example, Reading Mastery is a Direct Instruction program that falls under the heading of Beginning Reading. How do we know if this program is currently being reviewed or if it will be reviewed 6 months from or a year from now? We want to make sure that we do not miss our window of opportunity for submission.
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**New Question**

1. What is the re-submission process for studies that have already been submitted, but that were incorrectly/inappropriately reviewed or evaluated? In other words, is there an appeals process? (this is related/similar to question #2 above)

If clarification or additional information is needed, please do not hesitate to contact me directly.

Thank you,  
Amy Johnston

Amy Johnston  
Director of Evaluation and School Relations  
National Institute for Direct Instruction  
Toll Free: 877.485.1973  
Phone: 541.485.1973  
Fax: 541.683.7543

ajohnston@nifdi.org  
www.nifdi.org

**From:** Eaton, Elizabeth C [mailto:EEaton@icfi.com]  
**Sent:** Monday, October 15, 2007 1:32 PM  
**To:** Amy Johnston  
**Subject:** RE: What Works Clearinghouse

Ms. Johnston,

Thank you for your questions. I have forwarded them to our senior research team for specific answers and guidance. I hope to have their responses for you in the next few days. If you have additional questions, please feel free to contact us again.

Sincerely,  
Elizabeth Eaton

---

Elizabeth Eaton  
What Works Clearinghouse  
(866) 503-6114  
[www.whatworks.ed.gov](http://www.whatworks.ed.gov)  
[eeaton@icfi.com](mailto:eeaton@icfi.com)

**From:** Amy Johnston [mailto:ajohnston@nifdi.org]  
**Sent:** Monday, October 15, 2007 4:02 PM  
**To:** Eaton, Elizabeth C  
**Subject:** RE: What Works Clearinghouse

Ms. Eaton,

Thank you for the quick response.

I have a few more questions

- 5) I understand that the Beginning Reading review is still active. However, is there a specific time frame for specific programs. For example, Reading Mastery is a Direct Instruction program that falls under the heading of Beginning Reading. How do we know if this program is currently being reviewed or if it will be reviewed 6 months from or a year from now? We want to make sure that we do not miss our window of opportunity for submission.
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against drawing conclusions about a program based on lack of fidelity to the model rather than flaws to the model itself?

Thank you in advance for your time and assistance.

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Fax: 541.683.7543  
ajohnston@nifdi.org  
www.nifdi.org

**From:** Eaton, Elizabeth C [mailto:EEaton@icfi.com]  
**Sent:** Monday, October 15, 2007 9:54 AM  
**To:** ajohnston@nifdi.org  
**Cc:** amyjohnston@gmail.com  
**Subject:** What Works Clearinghouse

Ms. Johnston,

Thank you for contacting the What Works Clearinghouse (WWC), established by the U.S. Department of Education's Institute of Education Sciences to provide educators, policymakers, researchers, and the public with a central and trusted source of scientific evidence of what works in education. I spoke with you on Friday, October 12<sup>th</sup> regarding your questions about the WWC review and submission process. Below, I have provided some information about the review and submission process. I also am including answers to your technical questions from a senior researcher at the WWC.

**WWC Review and Submission Process**

Studies for the WWC review are gathered through an extensive search of published and unpublished research literature, including submissions from intervention developers and the public. All studies are screened across several dimensions, and those that do not meet criteria are categorized as "not meeting evidence screens." The review process is detailed on the What Works Clearinghouse website and I have provided a link to the information for your convenience: <http://ies.ed.gov/ncee/wwc/overview/review.asp>.

Submissions can be held for some time if a topic is not ready for review, and due to the highly intensive literature search and collection processes undertaken by the WWC, submission-to-review times can vary substantially. It depends on (a) whether the submission logically falls under a topic already under review, (b) the number of intervention reports under review, and (c) how much overlap there is between the study/program and the topics that are under review. However, we try to ensure that critical research is reviewed and reported on in a timely fashion.

Submitters need only include the information solicited on the online submission form; however, the review process can be streamlined significantly if authors also include unpublished studies. Before an intervention is completely reviewed, the WWC undertakes an effort to find all studies – both published and unpublished. It is especially helpful if the submitter references which articles are "linked" to one another (e.g., follow-up reports on a particular study).



I believe you mentioned the Beginning Reading Review during our call. For your reference, I do not believe the Beginning Reading review is completed. Although a topic report has been drafted for Beginning Reading, it is not an indication that the review has been completed; rather, it is simply a snapshot of what the WWC has reviewed at this point in time. Even if a report is "complete," we are still interested in keeping our reviews up to date; therefore, it is always an opportune time to submit a study for review.

As I mentioned on the phone, we hope to have the submission process available this month. Feel free to check the submission section of What Works Clearinghouse' s website for updated information (<http://ies.ed.gov/ncee/wwc/openinvite.asp>).

### **Technical Questions**

Please see the responses to your technical questions provided below for your convenience.

- 1) For a quasi-experimental design, is it necessary to identify the comparison schools ahead of time, or can they be identified after the fact as appropriate comparisons in the geographic area?**

The WWC tends to cast a skeptical eye toward comparison groups that were formed ex post facto; however, we have passed studies that have used propensity score matching on historical data. As long as there is a rigorous methodology to develop the comparison group – and more importantly, as long as the author demonstrates equivalence between treatment and comparison groups at baseline [or controls for those differences] – the study would be considered for inclusion in the WWC.

- 2) With a single subject design, is it necessary to have an ABA-design or would an AB-design be adequate? For example, once a child learns to read that doesn' t go away, or would a lack of further improvement be an adequate control when the intervention is removed.**

The WWC is still working on the standards for single subject designs. Based on initial discussions held during the previous contract, we believe the WWC was leaning toward requiring ABA designs at a minimum. The jury is still out, however, and it will probably be several months before the exact standards for single subject designs are finalized.

- 3) Regarding quasi-experimental design, would pre-test measures, which showed the control group to be superior at the outset, be adequate as opposed to exactly equivalent if no covariant is used to make up for the initial head start and the experimental group is still significantly ahead of the control group at the end of the study?**

Studies that do not employ random assignment must demonstrate the initial equivalence of the treatment and comparison group on either the outcome itself or on factors highly correlated with the outcome. For example, in the case of our Dropout Review, this would include data such as socioeconomic status, race/ethnicity, prior achievement, prior attendance, special education classification, and teenage parent status. If comparison groups are not equivalent at baseline, sufficient statistical controls must be used to equate the groups in the final analysis.

I hope this information is helpful. If you have additional questions, please feel free to contact us again.

Sincerely,  
Elizabeth Eaton

---

Elizabeth Eaton  
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[eeaton@icfi.com](mailto:eeaton@icfi.com)

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**From:** Amy Johnston [ajohnston@nifdi.org]  
**Sent:** Friday, December 07, 2007 1:28 PM  
**To:** Eaton, Elizabeth C  
**Subject:** RE: What Works Clearinghouse

**Follow Up Flag:** Follow up  
**Flag Status:** Red  
Ms. Eaton,

I have one last question that I hope you will forward on to the research team.

Once a topic is no longer active, how will new studies/research be handled? Will periodic updates be issued?

Thank you,  
Amy Johnston

Amy Johnston  
Director of Evaluation and School Relations  
National Institute for Direct Instruction  
Toll Free: 877.485.1973  
Phone: 541.485.1973  
Fax: 541.683.7543  
ajohnston@nifdi.org  
www.nifdi.org

**From:** Eaton, Elizabeth C [mailto:EEaton@icfi.com]  
**Sent:** Thursday, December 06, 2007 8:44 AM  
**To:** Amy Johnston  
**Subject:** RE: What Works Clearinghouse

Dear Amy,

I apologize that you have not received a response. I will follow-up with our senior research team to ensure that your questions are answered. Please do not hesitate to contact me again if I can provide further assistance.

Sincerely,  
Elizabeth Eaton

---

Elizabeth Eaton  
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**From:** Amy Johnston [mailto:ajohnston@nifdi.org]  
**Sent:** Thursday, December 06, 2007 11:03 AM  
**To:** Eaton, Elizabeth C  
**Subject:** RE: What Works Clearinghouse

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Please see below for questions that I submitted in October 2007, but have not yet received a response to. The research committee that I am a member of is trying to plan for the upcoming school year and having answers to these questions is critical to our ability to do so effectively. Please note that I have included a new question in addition to those previously submitted.

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**From:** Eaton, Elizabeth C [mailto:EEaton@icfi.com]  
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I hope this information is helpful. If you have additional questions, please feel free to contact us again.

Sincerely,  
Elizabeth Eaton

---

Elizabeth Eaton  
What Works Clearinghouse

(866) 503-6114

[www.whatworks.ed.gov](http://www.whatworks.ed.gov)

[eeaton@icfi.com](mailto:eeaton@icfi.com)

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**From:** Amy Johnston [ajohnston@nifdi.org]  
**Sent:** Tuesday, January 08, 2008 2:21 PM  
**To:** Eaton, Elizabeth C  
**Subject:** Questions and Responses

**Follow Up Flag:** Follow up  
**Flag Status:** Red

**Attachments:** RE: What Works Clearinghouse  
Ms. Eaton,

Just over a month ago (Dec 6<sup>th</sup>) I emailed you a series of questions that I originally submitted in October 07 (please see attached email). To date, I still have not received a response. Could you please follow up with the appropriate individuals regarding this inquiry? I m sorry if it appears that I am nagging WWC about these issues, but our research group is unable to plan for the upcoming year until we know where we stand in regards to the questions that were submitted. Thank you in advance for your continued assistance.

Best Regards,  
Amy Johnston

Amy Johnston  
Director of Evaluation and School Relations  
National Institute for Direct Instruction  
Toll Free: 877.485.1973  
Phone: 541.485.1973  
Fax: 541.683.7543  
[ajohnston@nifdi.org](mailto:ajohnston@nifdi.org)  
[www.nifdi.org](http://www.nifdi.org)

**From:** Amy Johnston [ajohnston@nifdi.org]  
**Sent:** Thursday, December 06, 2007 11:03 AM  
**To:** Eaton, Elizabeth C  
**Subject:** RE: What Works Clearinghouse

**Follow Up Flag:** Follow up  
**Flag Status:** Red  
Ms. Eaton,

Please see below for questions that I submitted in October 2007, but have not yet received a response to. The research committee that I am a member of is trying to plan for the upcoming school year and having answers to these questions is critical to our ability to do so effectively. Please note that I have included a new question in addition to those previously submitted.

2<sup>nd</sup> set of questions submitted in October (pasted from email below):

- 1) I understand that the Beginning Reading review is still active. However, is there a specific time frame for specific programs. For example, Reading Mastery is a Direct Instruction program that falls under the heading of Beginning Reading. How do we know if this program is currently being reviewed or if it will be reviewed 6 months from or a year from now? We want to make sure that we do not miss our window of opportunity for submission.
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- 4) It is not unusual to see studies in which there are implementations of DI programs in which the program is used without fidelity of implementation. How does WWC guard against drawing conclusions about a program based on lack of fidelity to the model rather than flaws to the model itself?

**New Question**

1. What is the re-submission process for studies that have already been submitted, but that were incorrectly/inappropriately reviewed or evaluated? In other words, is there an appeals process? (this is related/similar to question #2 above)

If clarification or additional information is needed, please do not hesitate to contact me directly.

Thank you,  
Amy Johnston

Amy Johnston  
Director of Evaluation and School Relations  
National Institute for Direct Instruction  
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Fax: 541.683.7543

ajohnston@nifdi.org  
www.nifdi.org

**From:** Eaton, Elizabeth C [mailto:EEaton@icfi.com]  
**Sent:** Monday, October 15, 2007 1:32 PM  
**To:** Amy Johnston  
**Subject:** RE: What Works Clearinghouse

Ms. Johnston,

Thank you for your questions. I have forwarded them to our senior research team for specific answers and guidance. I hope to have their responses for you in the next few days. If you have additional questions, please feel free to contact us again.

Sincerely,  
Elizabeth Eaton

---

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**From:** Amy Johnston [mailto:ajohnston@nifdi.org]  
**Sent:** Monday, October 15, 2007 4:02 PM  
**To:** Eaton, Elizabeth C  
**Subject:** RE: What Works Clearinghouse

Ms. Eaton,

Thank you for the quick response.

I have a few more questions

- 5) I understand that the Beginning Reading review is still active. However, is there a specific time frame for specific programs. For example, Reading Mastery is a Direct Instruction program that falls under the heading of Beginning Reading. How do we know if this program is currently being reviewed or if it will be reviewed 6 months from or a year from now? We want to make sure that we do not miss our window of opportunity for submission.
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Thank you in advance for your time and assistance.

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ajohnston@nifdi.org  
www.nifdi.org

**From:** Eaton, Elizabeth C [mailto:EEaton@icfi.com]  
**Sent:** Monday, October 15, 2007 9:54 AM  
**To:** ajohnston@nifdi.org  
**Cc:** amyjohnston@gmail.com  
**Subject:** What Works Clearinghouse

Ms. Johnston,

Thank you for contacting the What Works Clearinghouse (WWC), established by the U.S. Department of Education's Institute of Education Sciences to provide educators, policymakers, researchers, and the public with a central and trusted source of scientific evidence of what works in education. I spoke with you on Friday, October 12<sup>th</sup> regarding your questions about the WWC review and submission process. Below, I have provided some information about the review and submission process. I also am including answers to your technical questions from a senior researcher at the WWC.

**WWC Review and Submission Process**

Studies for the WWC review are gathered through an extensive search of published and unpublished research literature, including submissions from intervention developers and the public. All studies are screened across several dimensions, and those that do not meet criteria are categorized as "not meeting evidence screens." The review process is detailed on the What Works Clearinghouse website and I have provided a link to the information for your convenience: <http://ies.ed.gov/ncee/wwc/overview/review.asp>.

Submissions can be held for some time if a topic is not ready for review, and due to the highly intensive literature search and collection processes undertaken by the WWC, submission-to-review times can vary substantially. It depends on (a) whether the submission logically falls under a topic already under review, (b) the number of intervention reports under review, and (c) how much overlap there is between the study/program and the topics that are under review. However, we try to ensure that critical research is reviewed and reported on in a timely fashion.

Submitters need only include the information solicited on the online submission form; however, the review process can be streamlined significantly if authors also include unpublished studies. Before an intervention is completely reviewed, the WWC undertakes an effort to find all studies – both published and unpublished. It is especially helpful if the submitter references which articles are "linked" to one another (e.g., follow-up reports on a particular study).

I believe you mentioned the Beginning Reading Review during our call. For your reference, I do not believe the Beginning Reading review is completed. Although a topic report has been drafted for Beginning Reading, it is not an indication that the review has been completed; rather, it is simply a snapshot of what the WWC has reviewed at this point in time. Even if a report is "complete," we are still interested in keeping our reviews up to date; therefore, it is always an opportune time to submit a study for review.

As I mentioned on the phone, we hope to have the submission process available this month. Feel free to check the submission section of What Works Clearinghouse' s website for updated information (<http://ies.ed.gov/ncee/wwc/openinvite.asp>).

### **Technical Questions**

Please see the responses to your technical questions provided below for your convenience.

- 1) For a quasi-experimental design, is it necessary to identify the comparison schools ahead of time, or can they be identified after the fact as appropriate comparisons in the geographic area?**

The WWC tends to cast a skeptical eye toward comparison groups that were formed ex post facto; however, we have passed studies that have used propensity score matching on historical data. As long as there is a rigorous methodology to develop the comparison group – and more importantly, as long as the author demonstrates equivalence between treatment and comparison groups at baseline [or controls for those differences] – the study would be considered for inclusion in the WWC.

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I hope this information is helpful. If you have additional questions, please feel free to contact us again.

Sincerely,  
Elizabeth Eaton

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**From:** Amy Johnston [ajohnston@nifdi.org]  
**Sent:** Friday, December 07, 2007 1:28 PM  
**To:** Eaton, Elizabeth C  
**Subject:** RE: What Works Clearinghouse

**Follow Up Flag:** Follow up  
**Flag Status:** Red  
Ms. Eaton,

I have one last question that I hope you will forward on to the research team.

Once a topic is no longer active, how will new studies/research be handled? Will periodic updates be issued?

Thank you,  
Amy Johnston

Amy Johnston  
Director of Evaluation and School Relations  
National Institute for Direct Instruction  
Toll Free: 877.485.1973  
Phone: 541.485.1973  
Fax: 541.683.7543  
ajohnston@nifdi.org  
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**From:** Eaton, Elizabeth C [mailto:EEaton@icfi.com]  
**Sent:** Thursday, December 06, 2007 8:44 AM  
**To:** Amy Johnston  
**Subject:** RE: What Works Clearinghouse

Dear Amy,

I apologize that you have not received a response. I will follow-up with our senior research team to ensure that your questions are answered. Please do not hesitate to contact me again if I can provide further assistance.

Sincerely,  
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---

Elizabeth Eaton  
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**From:** Amy Johnston [mailto:ajohnston@nifdi.org]  
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**To:** Eaton, Elizabeth C  
**Subject:** RE: What Works Clearinghouse

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**Subject:** RE: What Works Clearinghouse

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**From:** Eaton, Elizabeth C [mailto:EEaton@icfi.com]  
**Sent:** Monday, October 15, 2007 9:54 AM  
**To:** ajohnston@nifdi.org  
**Cc:** amyjohnston@gmail.com  
**Subject:** What Works Clearinghouse

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Elizabeth Eaton

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# NATIONAL INSTITUTE FOR DIRECT INSTRUCTION

P.O. Box 11248

Eugene, OR 97440

Phone: 541-485-1973

FAX: 541-683-7543

January 2, 2009

Eric A. Hanushek, Ph.D., Chair  
National Board for Education Sciences  
Paul and Jean Hanna Senior Fellow  
Hoover Institution  
Stanford University  
Stanford, CA 94305-6010

Senator Robert C. Byrd, Chair  
U.S. Senate Committee on Appropriations  
United States Senate  
311 Hart Building  
Washington, DC 20510

Dear Dr. Hanushek and Senator Byrd:

As you no doubt know, in July 2008, the Senate Appropriations Committee requested that the National Board for Education Sciences convene a panel of experts to assess the What Works Clearinghouse's (WWC) review processes. In late October the committee completed its examination and called for a "full review." I am writing to give strong support to this recommendation.

In the past few months, in my role as the Director of Research for the National Institute for Direct Instruction (NIFDI), I have reviewed many of the reports developed by the WWC and have found that there are numerous, serious technical problems with these documents. These problems occur in the identification of studies for review as well as in the interpretation and reporting of results. The errors are so severe that I believe that the ratings provided by the Clearinghouse give very misleading pictures of the body of educational research. The enclosed report is a summary of the errors found in just one of these reports. It also includes a description of our attempts to communicate these problems to WWC personnel. Both I and the NIFDI president, Kurt Engelmann, have requested that the WWC remove the erroneous reports from their website. Unfortunately, these requests have been ignored.

NIFDI strongly embraces the goal of providing accurate summaries of the scientific literature to the public. Unfortunately, my own review of their work, as well as that of numerous other scholars, suggests that the WWC appears to have failed in this attempt. Thus, I am very pleased that the expert committee requested a full review of the WWC procedures, and urge you to accommodate that recommendation. If I may provide any additional information, please do not hesitate to contact me via our toll-free number, 1 877 485-1973, or email: [jstockard@nifdi.org](mailto:jstockard@nifdi.org).

Sincerely,

Jean Stockard, Ph.D.  
Director of Research

cc: Senator Ron Wyden  
Representative Peter DeFazio  
Kurt Engelmann

Mark Dynarski  
Director, What Works Clearinghouse

---

**MATHEMATICA**

Policy Research, Inc.

P.O. Box 2393  
Princeton, NJ 08543-2393  
Telephone (609) 799-3535  
Fax (609) 799-0005  
www.mathematica-mpr.com

2008-008

September 5, 2008

Dr. Jean Stockard  
Director of Research  
National Institute for Direct Instruction

Dear Dr. Stockard:

Thank you for your June 25 letter concerning the What Works Clearinghouse (WWC). As director of the WWC, I have reviewed the concerns in the letter and appreciate the opportunity to explain the WWC's decisions. It is clear that you invested effort to prepare the letter and I want to respond fully.

We have examined the issues raised in the letter and have concluded that the WWC standards were applied appropriately. In the attached document, I provide more detailed responses to the issues you raise. Many of the issues that the letter characterizes as errors stem from the different ways in which bodies of research are interpreted by individuals or organizations compared to when bodies of research are reviewed systematically using WWC standards. We are aware that such differences occur but view these differences as stemming from the use of differing implicit or explicit standards. The WWC makes its standards explicit. The process it uses is consistent with procedures recommended by and used by leaders in the practice of systematic reviews of evidence, including the Institute of Medicine and the Cochrane Collaborative.

The letter makes several suggestions for the WWC moving forward. Some suggestions are counter to the systematic review process that is the foundation of the WWC. For example, as explained in the attachment, the criteria for date and age ranges being reviewed are established with specific rationales, and the systematic review process gives equal weight to peer-reviewed and non-peer-reviewed sources. As we expand the WWC's activities into new topic areas, we will keep in mind the other suggestions that you provided, such as those regarding effect sizes and the organization of topic areas. We also will keep in mind the types of concerns you have raised, all in order to ensure that the WWC continues to reflect consistent application of rigorous standards as well as the high quality analysis that Mathematica is known for.

Sincerely,

Mark Dynarski  
Director, What Works Clearinghouse

**From:** Paul Decker  
**Sent:** Wednesday, August 06, 2008 11:53 AM  
**To:** 'jstockard@nifdi.org'  
**Cc:** ZZ HSC Anita Summers; Paul Decker; Marvie Tovera  
**Subject:** Response to Your Letter

Dear Dr. Stockard:

Thank you for prompting me regarding a reponse to your concerns about the What Works Clearinghouse (WWC). I received your earlier letter and reviewed it carefully. As you know, your original letter contained a substantial amount of material as well as 11 specific recommendations to change the criteria and processes supported by the Clearinghouse. I therefore have asked for input from both our team working on the project as well as our client for this work, the Institute of Education Sciences (IES) at the U.S. Department of Education, to develop an appropriate response to your letter.

As you probably know already, Mathematica is administering the WWC under contract to IES, and our work is bound by the statement of work contained in the contract. Furthermore, we work closely with IES to determine how best to fulfill the statement of work as the details of the work unfold. Hence, any potential changes that Mathematica could make in response to your recommendations, including changes in the WWC web site, may be limited by the contract or by the guidance of our client.

Thank you for your attention to the What Works Clearinghouse initiative. I appreciate your thoughtful review, and I look forward to sending you a lengthier response.

Paul Decker

---

**Paul Decker**  
President and Chief Executive Officer  
Mathematica, Inc.  
Box 2393  
Princeton, NJ 08543  
609-275-2290  
[pdecker@mathematica-mpr.com](mailto:pdecker@mathematica-mpr.com)

From: Sanchez, Susan [Susan.Sanchez@ed.gov]  
Sent: Friday, September 05, 2008 10:40 AM  
To: Mark Dynarski; Jill Constantine; Scott Cody; Michael Ponza

Dear Dr. Decker:

This note is a follow-up to my letter of June 25 regarding the efforts of the What Works Clearinghouse and your note of August 6 indicating that you

would respond to my concerns. As you may know, in the interim, the What Works Clearinghouse issued a report on Reading Mastery, one of the Direct Instruction programs, claiming that they could find "no studies...that meet WWC evidence standards." I am in the process of preparing a complete response to their analysis, but was dismayed to find that errors that I pointed out to you in my original letter remain in the new posting. To continue to display such erroneous conclusions so prominently on the WWC website does nothing to help, and potentially much to hurt, the achievement of our nation's children. As I suggested in my letter of June 25, until the procedures of the WWC can be altered to conform to minimal standards of scientific inquiry, I believe that all reviews on the website

should be removed.

In addition, your note of August 6 mentioned that contractual relationships between Mathematica and the WWC may limit Mathematica's ability to prompt changes in the work of WWC. We have received a copy of the contract. Examination of the contract indicates that, rather than prohibiting WWC from taking some of the steps I outlined, it, in fact, supports taking several of these steps. For instance, on page 5 of the statement of work, section B (WWC Systematic Review Process), the document

refers to WWC reviews "of the full body of evidence" on a particular topic

area or intervention: "The contractor shall examine the efficiency of carrying out each of the steps in the systematic review of the full body of evidence." Yet the WWC has eliminated a large proportion of the research studies on Reading Mastery and other Direct Instruction interventions by examining only the last 20 years of research. The section on the WWC Systematic Review Process indicates that Mathematica has the responsibility to develop a review protocol "that specifies the...explicit inclusion and exclusion criteria to assess each potential study" and to identify the topic area boundaries, including "recency."

The

client, IES, already explicitly granted to the contractor, Mathematica, flexibility in making the recommended changes.

Moreover, section A of the statement of work (WWC Operating Assumptions and Guidelines), indicates that the WWC was designed to assure transparency and accuracy in reporting research reviews. One assumption/guideline listed on page 4 (Quick and Accurate Resolution of Complex, Technical Issues) warns that "WWC's systematic reviews surface many complex, technical issues in current research in education that, if left unresolved, would lead to inaccurate statements about the impact of an intervention." The report on Reading Mastery violates this guideline by conveying a false impression about the extent and quality of the research base on Reading Mastery. In addition, the very slow reaction to the issues I raised months ago in my first letter violates the



quick-and-accurate provision.

Another assumption/guideline listed on page 4 is that "The WWC review process, outcomes, and the products that result from the review process are clearly 'transparent' to assure accountability and easy access to the review process and its rationale." The wildly inconsistent treatment of research studies on different interventions, which I discussed in my previous letters, indicates a puzzling lack of transparency in the WWC review process.

In short, the concerns regarding the WWC that I expressed in my June 25 letter remain and, in fact, have intensified in the ensuing months. My review of the contract language reinforces my belief that Mathematica is responsible for dealing with these very serious problems. I am copying Dr.

Summers, as well as Dr. Grover Whitehurst, IES Director, for their information. I presume that I will hear from you soon in response to my concerns.

Sincerely,

Jean Stockard, Ph.D.  
Director of Research  
National Institute for Direct Instruction  
Eugene, Oregon  
phone: 541-485-1973 or toll-free 877-485-1973

**From:** Sanchez, Susan [Susan.Sanchez@ed.gov]  
**Sent:** Friday, January 16, 2009 9:22 AM  
**To:** Mark Dynarski; Jill Constantine; Scott Cody; Michael Ponza  
**Subject:** FW: complaint about WWC  
**Attachments:** 090102 Hanushek Stockard.pdf; rmresponse\_wwc.pdf  
  
**Importance:** High

-----Original Message-----

**From:** Cottingham, Phoebe  
**Sent:** Thursday, January 15, 2009 6:42 PM  
**To:** Sanchez, Susan; 'mdynarski@mathematica-mpr.com'; 'jconstantine@mathematica-mpr.com'  
**Subject:** Fw: complaint about WWC

Fyi

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Sent using BlackBerry

**From:** (b)(6)  
**To:** Cottingham, Phoebe  
**Cc:** Betka, Sue; Garza, Norma  
**Sent:** Thu Jan 15 18:11:06 2009  
**Subject:** complaint about WWC  
Phoebe

Interestingly, while in DC for the discussion of WWC, I received the attached letter and paper. Can you tell me what you know about this matter? They claim not to have been properly treated.

Rick

--

Eric Hanushek  
Hoover Institution  
Stanford University  
Stanford, CA 94305-6010  
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To: What Works Clearinghouse

From: Paul Weisberg, Emeritus Professor of Psychology, University of Alabama,  
Tuscaloosa, AL 35487

A colleague of mine recently notified me that the What Works Clearinghouse (WWC) reviewed a 1988 article of mine entitled, "Direct Instruction in the Preschool" which was published in Education and Treatment of Children 11 (4), 349- 363. The review appeared in the May 21, 2007 issue of WWC under the title "Intervention: Direct Instruction." According to the review, my research "did not meet WWC evidence screens." The information provided in footnote 12 claimed that the research suffered from having, "incomparable groups: the intervention and comparison groups cannot be considered equivalent at baseline, even with the use of covariates in the analysis."

In this research the academic and other behaviors of four separate groups of children were studied, the first two of which were identified as Direct Instruction (DI) and Child Development (called CD for present purposes). The preschool facility that eventually featured DI programs was called The Early Childhood Day Care Center (ECDCC) and the facility that established CD-based programs was called the Comprehensive Child Service (CCS) program. Both preschools were located on the University of Alabama campus: the ECDCC and CCS were affiliated, respectively, with the Psychology Department and the School of Home Economics. In 1970 both the ECDCC and CCS program admitted children whose entering ages ranged from 4 to 5 years of age.

All of the children's parents or guardians were qualified to receive benefits from a federally sponsored block grant called Title XX which was in keeping with the objectives of the Social Security Act. This entitlement program sought to help parents or guardians from single-parent households seek, find, and maintain employment. As long as these employment-related activities were undertaken by these individuals, they could be assured that their preschool-aged children would receive full-time, year round day-care or preschool services. Parents who were disabled and those who were foster parents could

also qualify for Title XX benefits with the result that children could receive sustained preschool services. During the late 1970's, public kindergarten was offered only for Title I children in Tuscaloosa. During the early 1980's, public kindergarten was available only in a few Tuscaloosa City and County Schools. By the mid 1980's every school had public kindergarten. These circumstances meant that 4 year-old Title XX children entering the EDDCC and CCS programs could be assured of one preschool year. A second preschool year for these same children was possible because public kindergarten which normally enrolled 5 to 6 year-old children was not available. Five year-old children could also start preschool and remain for a single year.

The state and local Department of Human Resources (DHR) is the agency cited in the article and is used here. (Before 1986, this department was called the Department of Pensions and Security or DPS which is the name of the agency cited in other publications of mine.) DHR/DPS served as the sole agency to screen Title XX parents and to place eligible children either in the ECDDC, CCS or other licensed preschool/daycare facilities. At any one time, there were from 6 to 8 other preschool programs located in Tuscaloosa that along, with the EDDCC and CSS, had contracts with DPS and received financial reimbursement for every child they served each month. DHR played a major role both in the initial assignment of every child who originally entered these preschools and in the selection of children to replace those who left the preschool.

Whether new children were placed and enrolled in the ECDCC, CCS or other Tuscaloosa preschools on the basis of random assignment procedures depended upon the type of placement and when it occurred. There were two types of placements. The first type occurred during the first year that Title XX children were enrolled in a preschool which, for most preschools took place during 1970. After DHR completed many parent interviews to determine the caretaker's eligibility, a very large number of children were considered for placement in each preschool. DHR caseworkers identified the location of the preschool to which the parents were to send their children as well as the entry date. Preschool staff members were also told the names of each new child and the starting date.

The second type of placement came at a time when several already enrolled children needed to be replaced by other eligible children. It is the second of these two circumstances during which the process of assigning new children to various preschools was based upon randomization procedures. Information about a child's status and the possibility of leaving a preschool program came from various sources: by DHR caseworkers who periodically spoke to a parent or caretaker; by the parents who volunteered this information themselves; or by a preschool staff member who told DHR about a child who had been absent for one or two weeks. Once DHR knew which children had left or were about to leave a preschool, the caseworkers marked the name of the departing child and the expected or known date of withdrawal on two types of waiting lists. One list was based on those children who withdrew from a specific preschool. The other was a much longer list containing the names of all the children from the 4 or 5 preschools entrusted to each caseworker. The date of removal was noted on both lists and a rank ordering was established for the assignment of new children based primarily on the withdrawal date of the child who left. Thus, replacement of children who left at the beginning of a month was given higher priority than those who left at a later time. Knowing how many children each preschool was licensed to serve, DHR sought to complete the replacement process as soon as possible so that the mother could begin employment and also so that new children had a chance to benefit by attending a full day preschool program. As a practical matter for each preschool, it was important that the facility receive a replacement child as soon as possible because the amount of financial reimbursement from DHR was based on the number of children currently in attendance. DHR knew of these contingencies and sought to keep the enrollment of children at a preschool at the number it was licensed to serve.

It is important to note that DHR closely followed the procedure of selecting children based on which child was next in line on the longer waiting list. DHR had the sole responsibility for making decisions about which children were able to enter a particular program. Preschool administrators and staff who had direct contact with the children did not have any say about the nature of the physical, intellectual/cognitive or socially adaptive features that they wanted a replacement child to have. According to

chance factors, the features of a replacement child could be the same or different from the one who left in a number of ways. For example, a child who left might have been a 5 ½ year-old Afro-American boy who was not physically active and did not interact much with other children. Assume further that his artistic, printing and verbal skills were good. In contrast, his replacement might be a 4 ¼ year-old Caucasian girl who had trouble learning how to write letters and numbers and disliked arts and crafts activities, but she was physically and socially active. As another hypothetical possibility, the next available child on the waiting list could have had a profile that fairly closely matched the one who left. Having been the Director of the ECDCC from 1970 to 1990, it was clear to me and to other preschool directors that one could not predict with any confidence the attributes the child next in line on the list would have.

Except for knowing beforehand that all of the incoming children were of preschool age and came from low-income backgrounds and that many of them were likely to be at-risk for future academic difficulty, nothing else of substance was known about a particular child before he or she started preschool. By using a waiting list that lacked any obvious pattern with regard to a preschool child's physical and behavioral features, DHR had effectively come up with a randomized procedure that governed the replacement of preschool children.

The details of the selection procedures used by DHR to recruit the entry children that constituted the original preschool groups in 1970 are not known. However, as children withdrew from preschools in subsequent years, the-next-in-line waiting list procedure used by DHR to replace those no longer enrolled again can be considered to be based upon random assignment. These randomized selection procedures were in force for every year of operation since the end of 1970. Of special importance for purposes of the present research is that these same randomized procedures continued to be employed during 1979 and 1980, the two baseline years when the EDDCC and the CSS children attended their respective programs for one or two years. This meant that of the ECDCC and CPS children tested on the evaluative instruments during the spring of 1980, all had been randomly selected by virtue of the waiting list procedure which determined which

preschool they would attend at the start of either 1979 or 1980. In effect then, the children in the ECDCC and CCS Groups by being randomly selected were very likely comparable on many attributes when they started preschool.

The present article did not explicitly mention that randomized procedures governed the means by which one child or another would enter the ECDCC or CCS preschools. The article, however, did say that, “Assignment of children to the ECDCC and other day care contractors (one of which was the CCS program) was based upon which facility was next inline to receive a child.” (See top of page 350.) The words, “next in line to receive a child,” refer, of course, to the assignment based on the randomized and hence unbiased waiting list procedure. On a related matter, the terms, compared to and Comparison Groups, (See pages 351 & 352) may have implied that the DI Group was simply being compared to the CD and Head Start Groups, (See p. 351) and also compared to a third group of children that had no preschool experience. (See p. 352.) The problem is that these two terms do not denote that randomization procedures were in fact applied to the ECDCC and to only one of the other two comparison groups, namely the CCS Group. The Head Start and the No Preschool groups were indeed comparison groups, but the children in these groups did not come from the same subject pool as those children whose parents were eligible for Title XX benefits.

Previous publications of mine dealing with the same 1988 preschool intervention project that WCC reviewed did mention the fact that a randomization procedure was used and it went on to describe the details and consequences of this procedure. (What follows next are statements about the use of randomization procedures with the same children as used in the present study. These statements come from three articles that preceded the 1988 article that was reviewed by WWC. I can send copies of these articles to someone selected by WWC to examine my reactions to the claim that the ECDCC and CSS Groups are not comparable. Please provide this person’s postal or email address.)

In an article published in 1982 (or 6 years earlier than 1988), it is stated that, “Assignment of children to either program (that is, the ECDCC or CSS preschools) was

done by the Tuscaloosa DPS (or DHR) office on a random basis. Whenever an opening arose at either program, the next available family on a waiting list was contacted. The net result (of this randomization process) was that children who were blood relations or living in the same household often ended up attending different preschools, and these circumstances were also true of children living on the same street or in the same housing project.” See p 66, lines 12 to 8, in the article by Sims, Jr., E., V., & Weisberg, P. (1982), entitled, Bringing low SES children in a Direct Instruction preschool up to first grade academic achievement: Comparisons with other preschools and the effect of years in program. Alabama Studies in Psychology 1, 1-17. And 5 years earlier in an article entitled, DI improves drawing skills with preschoolers, written in by E. Sims Jr., P. Weisberg & C Sulentic and published in Direct Instruction News, 1983, 2, 4-5, the following statement was made on page 4, “Assignment of children to these programs (ECDCC & CCS) was done by caseworkers at the local welfare office (i.e. DPS/ DHR) agency on a random, first come, first-served basis.” And 4 years earlier, a similar statement was made that, “The local welfare agency (DPS or DHR) assigned children to this preschool (the CCS Group) or to ours (the ECDDC Group) on a random basis.” The statement was written by me as the author of an article entitled, Reading instruction for poverty-level preschoolers, which appeared in the 1983-84 edition of Direct Instruction News, 3 (1, 16-18, 21).

(Among its objectives, the DI Newsletter emphasized the development and use of instructional programs that resulted in evidence-based outcomes centering on marked improvement in the learning of reading and other content areas for all children, especially those at-risk for academic failure. The editor was Wes Becker who suggested that I should seek publication of my research in a referred journal. A manuscript send to Education and Treatment of Children was accepted.)

The ECDCC and CSS programs were comparable in at least seven different variables, a number that large is not found in early childhood intervention research. The children in both groups:

(1) were placed in their respective preschools on the basis of random assignment;



- (2) had parents or guardians who qualified for the Title XX program of the Social Security Act whose purpose was to help low-income family members find employment;
- (3) attended a preschool located on a university campus;
- (4) attended preschools already in operation for a long term, which, for each preschool, was 10 years;
- (5) were all given standardized tests in 1980 to measure their attainment of several academic skills and their attitude toward school;
- (6) started preschool either in 1979 or 1980, and could attend for two years if they entered at age 4 and they continued for another year when they turned 5 (The extra year was possible because of there were few public kindergartens at the time) or, they entered at either age 4 or at age 5 and stayed for only one year;
- (7) qualified for the US Department of Agriculture's free breakfast and lunch programs.

In addition, there were several other common features between the ECDCC and CCS preschool programs which were based on family demography. These included the presence of a single household head who completed less than 10 school years (high school completion is 12 years), had an extended family that typically consisted of 4 or 5 members where the household head's income was at or below the poverty level and, if sustained employment was found, it was nearly always in unskilled labor.

Despite the strong resemblance of children in the ECDCC and CCS Groups, marked inter-group differences were found on the WRAT in a number of academic measures taken during the 1980 evaluation. A separate statistical analysis revealed highly significant differences. Both the ECDCC children with one year and two years of DI-based instruction far exceeded the CCS children with comparable years of preschool attendance on substantial academic attainments which are those concepts and skills learned by most children by the end of first grade. ECDCC children with one year of DI reading instruction could read an average of 5 WRAT words whereas those with two years read an average of 30 WRAT words. And many of these words were those which were never taught in the DI reading program. The never-presented words included size, weather, finger, awake, cliff, glutton and threshold. For WRAT Spelling, words often

spelled correctly were will, must, him, boy, and cook. In WRAT Arithmetic, these questions could be correctly answered: “Which is more, 42 or 28?” Or, “If you have 3 apples and you get 4 more, how many apples do you have?” And, “if you have 9 marbles and you lose 3, how many do you have?” Some math computations involved solving written addition, subtraction and multiplication problems such as  $4 - 1$ ;  $6 + 2$ ;  $5 - 3$ ;  $32 + 24 + 40$ ; and  $4 \times 2 =$ .

Another set of tasks dealt with rudimentary skills that most children are able to do at the start of first grade or will be taught early in first grade. In WRAT Reading, these tested skills included the identification of 13 alphabet letters, matching a list of 10 letters found in list of 13 letters and identifying two letters in one’s first name. To reflect the rudimentary skills for WRAT Spelling, 18 simple forms displayed in clearly marked boxes had to be copied in empty boxes directly underneath the drawn forms. In Arithmetic, the skills tested included oral counting of 3 and 5 objects, holding up 3 fingers, and identifying the numbers 3, 5 and 6. On each of the WRAT subtests that exemplified rudimentary skills, there were no reliable differences between the ECDCC and CCS Groups. Because the CCS children were unsuccessful on the substantial academic tasks of the WRAT, but able to succeed on many of the rudimentary tasks, it seemed reasonable that children from another preschool be evaluated to find out if the same skill breakdown would occur. That preschool which agreed to participate was a nearby Head Start (HS) program.

There were actually two different HS programs evaluated with the children in each HS program comparable to the ECDCC and CCS children in several ways. The HS children in each program: (1) attended a long-standing preschool in operation for eight years; (2) attended preschool for one or two years (again the second year was possible because public kindergarten was still limited); and (3) qualified for the US Department of Agriculture’s free breakfast and lunch programs. In addition, the head of the household for HS children shared many of the same demographic characteristics as the parents of the ECDCC and CCS children. Children from one HS program were tested on the WRAT

in September 1980 and the other during 1982-83. The reason for the delayed evaluation will be provided later.

The HS children came from a different subject pool but the assignment of children to the different preschools was not based upon the same randomization procedures done for other two preschools. Thus, comparing the different groups would not represent a true experimental design. However, the comparison of the HS and ECDCC (or HS and CCS) Groups did meet the demands of a quasi-experimental design which permitted appropriate statistical evaluations. It turned out that the HS children showed the same WRAT outcome as the CCS children: acceptable performance on the rudimentary skills but almost no success on the substantial skills. On the other hand, the ECDCC children's performance was equally strong on both types of skills.

Since the WRAT assessments taken with the ECDCC, CCS and HS Groups provided outcome data on the contribution of preschool programs to mastery of rudimentary and substantial skills, it was instructive to consider what children who never attended preschool were able to do on these skills. For one of the No-Preschool Groups, five year-old children just beginning kindergarten were selected from three city schools which already had public kindergarten programs. Although similar in age to the 4 to 5 year-old pre-kindergarten children from the three preschools already mentioned, the children selected from these public kindergarten programs never attended any preschool. Another group of children who had begun first grade, but who had neither attended pre-kindergarten nor kindergarten were selected from two local schools. Thus, unlike the children in the ECDCC, CCS and HS Groups, who could acquire two consecutive years of schooling before first grade (starting from age 4 and ending at age 6), the comparable No-Preschool children had no preschool experience before they started first grade. The parents of children from both age groups confirmed that their five year older children, now in kindergarten, never attended preschool or that their six year-olders, now in first grade, neither attended pre-kindergarten or kindergarten. During the times their children were not attending pre-kindergarten or not attending pre-kindergarten plus kindergarten,

the parents said that their children were “looked after” either by the parent herself or by close relatives.

All children in the two No-Preschool Groups received free meals. The schools attended by the starting first-graders without any preschool experience were the same schools attended by many of the children who had previously attended the ECDCC, CSS and HS programs. The children starting kindergarten or first grade children were tested on the WRAT in September of 1980. The outcome for both No-Preschools Groups replicated the rudimentary–substantial skill pattern found with the CCS and HS groups. Neither of the two No-Preschool Groups did well on the substantial parts of WRAT Reading, Spelling and Arithmetic. On the rudimentary skills, the older 6 year-old, No-Preschool children, who were in beginning first-grade classes, but who did not attend pre-kindergarten or kindergarten, did somewhat better than the younger 5 year-old No-Preschool children who were attending public kindergarten and did not attend pre-kindergarten. Performance favoring age over preschool experience, although suggestive, did not result in statistically significant differences.

The absence of a difference between rudimentary and substantial skills for the ECDCC children occurred during the 1980 WRAT evaluation and for every year the WRAT was given. That is, the sameness in performance occurred for the testing periods from 1978 to 1985 for kindergarten-aged children and from 1977 to 1985 for the first-grade starting children. That means the result was replicated for the 78 kindergarten-aged children and for the 65 first-grade starting children, as reported in Figure 3 of the article. And, the absolute level of substantive abilities was always greater in Reading and Spelling for those DI children having two years of the DI Reading Mastery (RM I & II) programs than those having one year of that program i.e. just RM I.

On the other hand, there was a strong and consistent discrepancy in WRAT performance for the two kinds of abilities for the CCS, HS and No-Preschool Groups. Because statistical evaluation confirmed a lack of any differences among these groups for either the rudimentary skills or the substantive skills, the appropriate group data for the

CCS, HS and No-Preschool Experience Groups were merged and the resulting group was identified as the Non-DI Group. The opportunity to check on the divergence outcome with a much larger sample size became a possibility when many more HS children could be evaluated during 1982 and 1983. The larger N's are reported separately for HS during the 1982-83 evaluation years for WRAT Reading in Table 3, and the results reveal the same performance discrepancy phenomena. The same result occurred for WRAT Spelling and Arithmetic for both the merged Non-DI Group and for the 1982-83 HS Group, but the sample sizes in Table 4 are not shown.

Academic objectives for pre-kindergarten children, such as those in HS, have centered on the promotion of rudimentary skills. Learning to identify alphabet letters and, perhaps, to provide practice in writing them, were and remain one of HS major objectives. Most likely, both past and current HS officials and staff, contend that beginning reading instruction should not be a pre-kindergarten goal but should await the start of first grade. Some might qualify that belief and say it should start in kindergarten. However, almost all early childhood educators will insist that pre-kindergarten is not the time to teach reading. One of the findings of this study is that the RM I program can teach pre-kindergarten children to decode words and to begin the process of learning to read stories and write the answers to literal comprehension questions. These outcomes occurred every time these aged children finished RM I.

If reading instruction was attempted in HS, it is probably the case that these few attempts to teach reading did not fare well. Some may argue that HS children are simply not able to succeed on tasks dealing with substantive tasks. And there are data to support this proposition. In part of the Head Start Variation Project conducted in 1963, the WRAT was used as one of the instruments to evaluate academic performance with HS children. According to the Project's author, I. Weisberg (no relation to me), HS children were unable to do any of the WRAT substantive tasks. Instead of saying something to the effect, "Yes, our kids did not do well, but let's find an instructional program that can teach these skills, so that when another evaluation is done we'll be able to show that our kids can do better on these important skills." That never happened. Instead, the data

showing the absence of substantive skill performance was discarded and instead the 1963 evaluation was based solely on the remaining rudimentary skills of the WRAT.

Some might argue that continued attempts to teach reading to young, poverty-level children only serves to frustrate them and the result will be that they withdraw from such activities altogether. That may be the case if an ineffectual reading program is used. That is, for example, one that suffers from poor selection and sequencing of examples, fails to provide relevant practice and correction procedures, lacks appropriate teacher-child interactions, and doesn't provide details on how to reinforce a child who makes improvements in skill development. A widely used norm-referenced test of school achievement called Animal Crackers was used in the present study. The results showed that the DI-taught children scored significantly higher than the Non-DI children on the students' perception of how well they were doing in school (the Self Confidence subtest) and they also attained a reliably higher overall motivation score. (See p 360)

A key question is what preschool activities should be offered to young children who are likely to have future difficulties in learning to read. One tactic is to provide reading-readiness activities. Providing the opportunity to engage in some of the rudimentary skills already discussed, receives a great deal of attention with HS children. So does modeling and encouraging "reading-like" behaviors. The latter can include going to the book area and selecting a book, learning to hold it right side up, finding out how to turn the pages properly, looking at the pictures and discussing them. Also, listening to someone read stories to learn about the characters, plot and then to answer simple questions is likely acceptable practice. Except for learning to read several common words that are associated with pictures, strategies for figuring out how to decode words is usually not taught. With this reading-readiness emphasis, actual reading is not seriously taught in preschool. It is during first grade when judgments are made about the effectiveness of the former readiness activities. Typically the most effective preschool readiness program is the one that has best served to facilitate or promote the learning of reading in the program adopted in first grade.

Another possibility is not to wait until first grade but begin reading instruction in preschool. This was done from 1970 to 1975 when the ECDCC staff taught reading to preschoolers from poverty-level backgrounds through whole-word, look-say recognition tasks that largely focused on selecting pictures that represented common nouns and pairing them with words. The reading gains were small and not sustained, and the reasons for the failure are described in the article.

Direct Instruction reading programs were adopted in 1976 and were continued until 1990. The majority of the ECDCC children who started the first level of the DI reading program, (called Reading Mastery or RM I which contains 160 lessons) were 4 years-old. As shown in Figure 1, they were able to correctly read or decode 427 words in their first preschool school year. Notice that during the beginning sets of 20 lessons, the rate in which new words were introduced in each lesson was low, but the number positively accelerated as the number of lessons increased. If these pre-kindergarten children stayed for a second year, when they were now kindergarten-aged children, they were taught the second level of Reading Mastery or RM II, which also contains 160 lessons. In the RM II program, 1001 new words were taught. Now the rate of new word introduction, as shown in Figure 1 is linear, meaning that these older children could handle about 100 new words introduced every 20 lessons. After finishing RM I and II, a total of somewhat less than 1500 words had been taught to at-risk children before they have set foot in first grade.

Aside from finding out how well preschool children are able to learn to read by testing them on the words they were taught, another means is to use a standardized, norm-reference test where the effects of different programs can be compared. The WRAT serves this purpose. Although it is frequently used with older children, it can be used to determine the extent of academic achievement in pre-first grade children. Raw scores can be converted into grade equivalent (GE) values and used for children as young as four and percentiles are available starting at age 5. As shown in Figure 3, at the end of one pre-kindergarten year where reading from the RM I program was taught across several different program years, the percentile range in WRAT reading was between the 76 and

the 96<sup>th</sup> At the end of a second year of teaching reading using the RM II program, the range for the different program years was now between the 98<sup>th</sup> and 99.9<sup>th</sup> percentile.

In the study of early readers, the sheer number of words that can be read by preschool children has been taken as a sign of reading success. Durkin identified early readers and called them “pencil and paper kids.” They came from middle-class backgrounds and showed an unusually strong interest in words and were presumed to be self taught readers. A preschool based on a language arts curriculum was started by Durkin in which 30 words were taught the first year and 124 more words the second year. The words had high interest value and were mostly nouns that could be represented by pictures. Not taught were words that are important for sentence construction (e. g., that, in, when, there, had, and, we) or printed words that are used as part of a question (e. g., how, who, which when). Thus, it is not likely that measures of sentence or passage comprehension were taken during a reading lesson.

The WRAT reading subtest provides a list of words that can be presented to young children. Although the WRAT provides a good yardstick for measuring decoding skills, it fails to assess reading comprehension performance. The number of words and sentences in the last stories from the RM I and II programs gives an idea of what the ECDCC children can do in decoding and comprehension tasks. Children who read the last RM I story from lesson 160 (A man liked to run fast) read 90 words and 14 sentences, which is an incredible feat for 5 year olders from poverty-level backgrounds. They also must answer oral comprehension questions as they read the story and afterwards they independently answer printed comprehension questions based on the story. The last RM II story (Leaving the land of peevish pets) contains over 375 words and about 45 sentences. There are also 10 printed comprehension questions that these just turned 6 year olders are required to answer.

Because these children were able to read first grade material, standardized tests developed for end of first grade children were used. These tests are shown in Figure 4 and the first grade-starting six year olders always performed above average on the first grade subtests. The breakdown of scores for three MAT subtests from two different aged



children (starting 5- and 6-year olders) shows an important pattern. Children with one year of DI reading scored above average in word analysis, which reflects decoding skills. However, their performance on word knowledge tasks and sentence and story reading, which require difficult comprehension skills, is close to the 20<sup>th</sup> percentile. Children with two years of reading do well on every subtest. It appears that what is critical is not the age when reading instruction begins but the number of years of RM I instruction. That is, younger children with one year of RM I instruction show the same pattern of subtest performance as older children who also had one year of instruction.

The Direct Instruction Model was one of the sponsors in the US Department of Education's Follow Through (FT) Project. The 3<sup>rd</sup> grade academic performance on the MAT was taken as a major index of the children's attainments in Reading, Math and Language. It was left to the sponsor to decide the grade level their FT model could begin. Children started in kindergarten with the DI Model and followed until the end of 3<sup>rd</sup> grade had 4 years of the Model (K to 3<sup>rd</sup> grade) while those who started in 1<sup>st</sup> grade had 3 years of the DI Model. Superior MAT achievement was found for the K-starting children relative to 1<sup>st</sup>-starting children. The present research showed that the RM I program could be properly and consistently implemented with pre-kindergarten children and create strong decoding skills and generate the necessary skills for dealing with literal comprehension abilities.

From: Paul Weisberg [weisberg@bama.ua.edu]  
Sent: Wednesday, May 21, 2008 6:26 PM  
To: info@whatworks.ed.gov  
Subject: Seek feedback re an article reviewed by WWC  
Attachments: WWC.doc

To Whom It may Concern:

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A cover letter and the same attachment enclosed herein was mailed to WWC via special delivery on May 9, 2008. As of yet, I have not received a reply. Now I am contacting WWC through email and hope to receive a reply.

Have a good day.

Paul Weisberg

Paul Weisberg  
Dept of Psychology  
Box 870348  
University of Alabama  
Tuscaloosa, AL 35487  
Office: Cell phone (205) 310-4568  
Home: (b)(6)

From: What Works  
Sent: Tuesday, May 27, 2008 4:31 PM  
To: 'Paul Weisberg'  
Cc: What Works  
Subject: Issue 505: Seek feedback re an article reviewed by WWC

Dear Mr. Weisberg,

Thank you for contacting the WWC. We are committed to ensuring the accuracy of information contained in WWC intervention reports. In light of the question you raise, we will examine the decisions made when rating the Weisberg (1988) study "Direct Instruction in the preschool" to determine whether the WWC standards of baseline equivalence were applied correctly to this study. We will let you know the results of this review. Please note, however, that these reviews take between 60 and 90 days to complete.

Thank you for your time,  
What Works Clearinghouse

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**From:** WhatWorks

**Sent:** Thursday, July 03, 2008 1:57 PM

**To:** 'weisberg@bama.ua.edu'

**Subject:** re: Seek feedback re an article reviewed by WWC

Dear Dr. Weisberg,

Thank you for the informative letter. We reviewed your concerns and established that the original WWC qualification refers to the comparison between Direct Instruction (DI) one-year reading group and DI two-year reading group (presented in tables 1 and 3; Weisberg 1988: 351, 359).

We do not think that the concerns apply to the comparison among the DI, Non-DI, and Head Start groups (presented in table 2, p.356). For these comparisons, we think it is likely that the WWC reviewers were unable to establish initial comparability among groups, because pretest data for the outcomes of interest (WRAT reading subtest scores) were not provided in the article (the WWC Early Childhood Education protocol requires that the groups must be roughly equivalent with regard to the pretest of the outcome measures or its proxy). To be sure, we have asked a different set of reviewers to re-examine the study. These reviewers may contact you for additional information if necessary. Either way, we will inform you about the results of our investigation.

Please let us know if you have any other questions. Thank you for contacting the WWC.

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Box 870348  
University of Alabama

Tuscaloosa, AL 35487

Office: Cell phone (205) 310-4568

Home: (b)(6)



**From:** WhatWorks  
**Sent:** Tuesday, August 05, 2008 2:35 PM  
**To:** 'weisberg@bama.ua.edu'  
**Subject:** What Works Clearinghouse  
Dear Dr. Weisberg,

We wanted to update you on the status of our response to your inquiry. WWC reviewers are still looking into the issue you raised. We will be sure to inform you about the results of this investigation.

Please let us know if you have any other questions.

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From: jstockard@nifdi.org  
Sent: Thursday, September 11, 2008 6:32 PM  
To: info@whatworks.ed.gov  
Subject: IES Website: Contact Us: Submit a Study to Review, Reference  
ID Number:  
894997019

info@whatworks.ed.gov, this email was automatically sent through the  
Contact  
link on the WWC website.

From: jstockard@nifdi.org

Message: I wish to submit this for the beginning reading category.  
For some reason the category button above was not working.

**From:** WhatWorks  
**Sent:** Friday, September 12, 2008 7:30 PM  
**To:** 'jstockard@nifdi.org'  
**Subject:** What Works Clearinghouse  
Hello,

Thank you for contacting the What Works Clearinghouse (WWC). We apologize that the document upload feature on our website did not work properly. We were unable to access the study you provided. Please reply to this email with the study attached.

Thank you,

What Works Clearinghouse

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**From:** WhatWorks  
**Sent:** Friday, September 12, 2008 7:33 PM  
**To:** 'jstockard@nifdi.org'  
**Subject:** What Works Clearinghouse: correction  
Dear Dr. Stockard,

We mistakenly stated that we could not access the study you submitted. We received the document & you do not need to submit anything further at this time.

Thank you for your submission.

What Works Clearinghouse

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From: jstockard@nifdi.org  
Sent: Monday, September 29, 2008 12:42 PM  
To: info@whatworks.ed.gov  
Subject: IES Website: Contact Us: Submit a Study to Review, Reference  
ID Number:  
1718962892

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Contact  
link on the WWC website.

From: jstockard@nifdi.org

Message: The category is beginning reading - I couldn't get that box to  
work

Note that even though the dependent variable is reading achievement in  
5th  
grade, the intervention occurred in first grade. According to the WWC  
beginning reading protocol, this sample is relevant (subpoint 1 under  
"sample relevance", p. 3 of the WWC protocol updated 11/28/06).



From: jstockard@nifdi.org  
Sent: Monday, September 29, 2008 12:53 PM  
To: info@whatworks.ed.gov  
Subject: IES Website: Contact Us: Check on the Status of a Submission,  
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link on the WWC website.

From: jstockard@nifdi.org

Message: I just tried to submit a study using a pdf format, but am unsure  
if  
it loaded.

The number is 1718962892.

Just so you know, the browser would not do anything with the file when  
the

"add" button was pushed.

So then I just clicked on done.

Thanks for checking on this.

Jean Stockard

**From:** WhatWorks  
**Sent:** Monday, September 29, 2008 10:37 PM  
**To:** 'jstockard@nifdi.org'  
**Subject:** What Works Clearinghouse study submission  
Dear Dr. Stockard,

Thank you for your submission. We received your attached PDF of the study.

Please note that studies submitted to the WWC could be considered for review under the next round of reviews as determined by IES. We are unable to provide a timeline for the review process at this time.

#### What Works Clearinghouse

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sample is relevant (subpoint 1 under "sample relevance", p. 3 of the WWC protocol updated 11/28/06).

Paul T. Decker  
*President and Chief Executive Officer*

P.O. Box 2393  
Princeton, NJ 08543-2393  
Telephone (609) 799-3535  
Fax (609) 799-0005  
[www.mathematica-mpr.com](http://www.mathematica-mpr.com)

September 8, 2008

Dr. Jean Stockard, Ph.D.  
Director of Research  
National Institute of Direct Instruction  
P.O. Box 11248  
Eugene, OR 97440

Dear Dr. Stockard:

Thank you for your June 25 letter concerning the What Works Clearinghouse (WWC). Mathematica Policy Research wants to ensure the quality and accuracy of all information contained in the WWC, and it works with study authors, curriculum developers, and consumers of the WWC to correct inaccurate information. We therefore appreciate your interest in and feedback on the WWC.

The WWC was designed to establish and apply a set of standards to identify rigorous research related to the impacts of education interventions. Studies that meet these standards are considered to have designs with causal validity, which gives practitioners increased confidence that the results of the study actually reflect the true impact of the intervention being examined. These standards were developed by leading experts in education research methodology, and they are applied through a systematic review process that includes repeated checks for quality and accuracy. They represent research criteria that we believe to be vital to the purpose of the WWC.

I have closely reviewed the concerns in your letter. I have also asked for input from Mark Dynarski, the director of the WWC effort, and representatives from the Institute for Education Sciences at the U.S. Department of Education. Based on my review and the input I received, I am convinced that the standards being used by the WWC adequately reflect the original mission of the WWC, as outlined above, and that those standards are being applied appropriately and consistently. In the attached document, Mark Dynarski provides more detailed responses to the issues you raise concerning the WWC's review of Direct Instruction.

Your letter makes several suggestions for the WWC moving forward. Some suggestions are counter to the systematic review process that is the foundation of the WWC. For example, as explained in the attachment, the criteria for date and age ranges being reviewed are established with specific rationales, and the systematic review process gives equal weight to peer-reviewed and non-

LETTER TO: Dr. Jean Stockard, Ph. D.  
FROM: Paul Decker  
DATE: September 8, 2008  
PAGE: 2

peer-reviewed sources. As we expand the WWC's activities into new topic areas, we will be mindful of the suggestions you raised in your letter.

I hope this information clarifies the WWC mission and the way in which the WWC operations support that mission.

Sincerely,

(b)(6)

Paul T. Decker

## RESPONSES TO CONCERNS IN 6/25/08 LETTER FROM JEAN STOCKARD

### Contrasting conclusions between WWC and extant literature

The letter states that WWC conclusions differ from extant literature including meta-analyses and literature reviews. It is important to note that the WWC is designed to produce a systematic review of literature. A sound definition of a “systematic review” is in the recent publication *Knowing What Works in Health Care* by the Institute of Medicine (IOM):<sup>1</sup> *A systematic review is a scientific investigation that focuses on a specific question and uses explicit, preplanned scientific methods to identify, select, assess, and summarize similar but separate studies.* (pg. 82)

Consistent with the recommendations in the IOM report, the WWC applies evidence-based methodological standards consistently to each study it reviews. These standards, which are available on the WWC website, were developed by leading education research methodologists.

The systematic review conducted by the WWC goes beyond the procedures performed in meta-analyses. Again using the IOM definition, a meta-analysis “quantitatively combines the results of similar studies in an attempt to allow inference from the sample of studies included to the population of interest” (pg. 82). However, as Robert Slavin has noted, meta-analyses rarely describe even one study in any detail.<sup>2</sup> The WWC uses meta-analytic techniques to summarize the results of studies that meet WWC standards. However, the important distinction is that the WWC uses a rigorous set of standards, applied consistently, to determine *which* studies are included in the meta-analytic computations. This ensures that WWC summary measures are based only on studies with causal validity.

It is not surprising that WWC findings may differ from those of other analyses. Some meta-analyses may not have such rigorous standards for including studies; others may have standards that differ from those used by the WWC. Because of these differences, the WWC cannot judge the results of its systematic reviews by how they compare to other analyses. Rather, it works to ensure that its standards appropriately identify studies with strong causal validity and applies those standards consistently to each study reviewed.

---

<sup>1</sup> Institute of Medicine (IOM). *Knowing What Works in Health Care: A Roadmap for the Nation*. Washington, DC: The National Academies Press. 2008.

<sup>2</sup> Slavin, R.E. (1995). Best evidence synthesis: an intelligent alternative to meta-analysis. *Journal of Clinical Epidemiology*, Vol.48, No.1 pp.9-18.

## Inclusion and exclusion procedures

### *Limiting studies to 1985 or later*

The WWC's default time period for reviews is a study publication date of 1985 or later. This timeframe, which was established in 2005, is used for two reasons. First, by limiting reviews to research to this time period, WWC reviews reflect reasonably current research. In particular, the time period range ensures that effect sizes and improvement indices are based on a counterfactual condition that reflects classrooms as they operate within a recent time period. Second, the timeframe ensures that the research reviewed is examining versions of interventions that are most likely to be available to practitioners today.

WWC principal investigators have the option to expand the period for which studies can be reviewed, if they believe that important research will be excluded. The principal investigators for the Beginning Reading area chose to maintain the default period in large part to maintain currency with the classroom context for beginning readers. For instance, the fact that preschool enrollment has increased,<sup>1</sup> combined with the fact that more preschool and kindergarten programs run full-day,<sup>2</sup> means that students in the early grades may be better prepared to receive reading instruction today than students 25 years ago. Moreover, it is possible that any changes in reading readiness over this period have not been evenly distributed, since differences in reading ability by socioeconomic status and race are apparent at the kindergarten level.<sup>3</sup> Other contextual factors have changed over the past 20 years, including advances in teacher training, increases in home literacy activities, and changes in the content of and variety of curricula used in classrooms.

Any of these changes could have implications for the effectiveness of an intervention. If school readiness has increased, then an intervention that was effective 25 years ago may not be effective in more recent years. If teachers are receiving stronger training and using newer curricula, the counterfactual condition against which interventions were measured 25 years ago have changed, and possibly with it the magnitude of its effects. The Beginning Reading principal investigators judged that they had an inadequate basis for

---

<sup>1</sup> The proportion of 3 and 4 year olds enrolled in school increased from 37 percent in 1980 to 56 percent in 2006. See Snyder, T.D., Dillow, S.A., and Hoffman, C.M. *Digest of Education Statistics 2007*. Washington, DC: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education, 2008.

<sup>2</sup> The proportion of pre-kindergartners and kindergartners attending full-day pre-kindergartners or kindergarten increased from 32 percent in 1980 to 59 percent in 2006. See Snyder, Thomas D. *Mini-Digest of Education Statistics, 2007*. Washington, DC: National Center for Education Statistics, Institute of Educational Sciences, U.S. Department of Education, 2008.

<sup>3</sup> For example, the Early Childhood Longitudinal Study of Kindergarteners (ECLS-K) found gaps in the reading knowledge and skills of kindergarteners by race: black and Hispanic children scored just under half of a standard deviation below whites on a test of reading knowledge and skills. Analysis of the ECLS-K and other surveys (i.e., Children of the National Longitudinal Study of Youth and the Infant Health and Development Program) show that socioeconomic status accounts for about half of the standard deviation of racial differences in reading test scores. See Duncan, G. and K. Magnuson. "Can Family Socioeconomic Resources Account for Racial and Ethnic Test Score Gaps?" *Future of Children*, Vol. 15, No. 1, Spring 2005.

assuming that effects of interventions measured more than 20 years ago would be experienced if schools adopted those interventions today.

#### *Restrictive grade range for Beginning Reading studies*

The letter raised concerns that the WWC's exclusion of research conducted on children outside of the kindergarten to 3<sup>rd</sup> grade age range was too restrictive. Because the reviews are focused on assessing interventions for beginning reading, the principal investigators, in coordination with the Institute of Education Sciences (IES), concluded that the review should focus on intervention effects for children in kindergarten through third grade (roughly ages 5 to 8). Some studies examine effects of interventions for students within the specified grade range and also students in higher grades. These studies are included in the review when the WWC is able to isolate the effects for the students who fall within the Beginning Reading grade range. The studies are excluded from the review if the results cannot be disaggregated to isolate effects for relevant grade range.

The grade range criterion is important for the integrity of the review process. The WWC-computed improvement indices and effect sizes are intended to reflect the effect of the intervention on the population in question. Including students above the topic area age range could lead to misstatements about intervention effects on children within the grade range.

It should be noted that the WWC attempts to determine a study's effects for the relevant grade range. When authors present findings aggregated across a broader age range and indicate that findings were analyzed for the relevant age range, it is standard WWC procedure to contact authors to request findings disaggregated for the grade range. Sometimes design limitations or other factors preclude authors from providing disaggregated results. In such cases, the WWC excludes the study.

#### *Fidelity of treatment implementation*

The letter notes that the WWC review process may downplay implementation fidelity. Definitions of implementation fidelity vary and many studies include little information to gauge fidelity, especially information about whether an intervention has been implemented within normal operating regimes of districts, schools, and teachers, not under specialized laboratory conditions. Moreover, there is no standard metric with which to rate and assess fidelity across studies that assures comparability.

The WWC's approach emphasizes the importance of replicated findings, which ensures that any one study in which fidelity issues may have arisen are averaged with findings from other studies. Intervention reports include an "extent of evidence" classification that allows practitioners to place more weight if they choose on interventions for which the extent of evidence is large, meaning the results are drawn from multiple studies and a large number of classrooms and students.



## **Concerns about interventions and studies reviewed by the WWC**

### *Reading Recovery*

The letter expressed concern that Reading Recovery is an intervention outside of the Beginning Reading protocol. The Beginning Reading protocol states that interventions that target specific populations (for example, readers below grade level, and at-risk students) are eligible for the review. Reading Recovery is a short-term tutoring intervention program intended to serve the lowest achieving first-grade students (i.e., those in the bottom 20 percent). As such, it falls within the Beginning Reading protocol.

The letter expressed concerns that the reviews of studies of Reading Recovery mischaracterized the findings from those studies. For both the Baenen et al. (1997) and Iversen and Tunmer (1993) studies, the results presented by the WWC review represent the findings when the WWC standards and procedures are applied to these studies.

With respect to the Baenen et al. study, it is important to note that the beginning reading protocol prioritized one-year results. In effect, the Beginning Reading review is only intended to examine whether beginning reading interventions have an effect within one year. This one-year period is applied consistently to each study reviewed to ensure the results can be compared across studies and interventions. The Baenen et al. study's two- and three-year general reading achievement measures are not ignored, however; they are presented in Appendix A4.4 of the Reading Recovery Technical Appendices ([http://ies.ed.gov/ncee/wwc/pdf/techappendix01\\_209.pdf](http://ies.ed.gov/ncee/wwc/pdf/techappendix01_209.pdf)).

With respect to the Iversen and Tunmer study, and consistent with the protocol, the WWC examined the results most relevant to the question of whether Reading Recovery improves reading proficiency compared to a reasonable counterfactual. That the study examined other comparisons is not ignored however. Appendices A4.1, A4.2 and A4.3 present results from other comparison groups. As with any study it reviews, the WWC does not base the findings of its review on the conclusions drawn by the authors.

We disagree that studies that compare an intervention to a no-treatment condition (as was done in Baenen et al.) provides a "built-in advantage," as the letter suggests. Many practitioners are interested in knowing whether an intervention is effective relative to customary classroom practices. The WWC reviews studies comparing treatments to no-treatment as well as studies comparing one treatment to another. In each case, the counterfactual is clearly documented in the review.

### *Exclusion of Reading Mastery Program*

The letter expresses concern that the Reading Mastery Program is excluded from review by the WWC. The WWC has reviewed studies of Reading Mastery. A report summarizing the results of those reviews was published on the WWC website on August 12, 2008.

### *Inclusion of unpublished manuscripts for review*

The letter suggests that by reviewing unpublished manuscripts, the WWC reviews studies of lower quality. Reviewing only studies that have passed a peer reviewing process could neglect unpublished information that may contain important and different findings. Mark Lipsey and David Wilson caution against this type of publication bias in *Practical Meta-Analysis* (2001). The damage such publication bias can cause in a systematic review is substantial. In *Knowing What Works in Healthcare*, the IOM notes that publication bias is well-established and that systematic reviews need to take steps to counter it, because otherwise “harmful interventions may appear to be worthwhile and beneficial interventions may appear to be useless” (page 97). For this reason WWC procedures are explicitly designed to review evidence from sources other than those published in journals. However, regardless of publication status, studies must meet the same evidence standards.

The letter asserts that the WWC should make available to the public all the research it reviewed. The more important issue is that the WWC provides an explicit citation to the study and thereby enables readers to obtain studies they wish to review. Unpublished information obtained from authors in response to queries that arise in reviews also are made available to requestors, and authors sign a form indicating that the information they provide to the WWC is available to the public.

### *Exclusion of Carlson and Francis (2002) study*

The letter expressed concern over the WWC review’s conclusion that there was a confound with the Direct Instruction intervention in Carlson and Francis (2002).<sup>1</sup> The WWC standard regarding intervention confounds was established to ensure that the results in a WWC review reflect what educators can expect if they implement the intervention being reviewed. A careful reading of Carlson and Francis indicates that findings cannot be separated into effects of Reading Mastery alone and effects of Reading Mastery supplemented by the support provided to teachers through the RITE program.

### *Exclusion of Waldron-Soler et al. (2002) study*

As described in the protocols for the WWC Early Childhood Education and Beginning Reading reviews, to establish baseline equivalence, treatment and comparison groups must differ on the pretest measures by less than half a standard deviation, or the differences must be insignificant in an adequately powered statistical test. The Waldron-Soler (2002) study reported pretest differences exceeding half a standard deviation on at least two measures.

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<sup>1</sup> The letter references Carlson and Freeman (2002). We have no record of a Carlson and Freeman (2002) study, and have assumed the letter refers to Carlson, C.D., & Francis, D.J. (2002). “Increasing the reading achievement of at-risk children through Direct Instruction: Evaluation of the Rodeo Institute for Teacher Excellence (RITE).” *Journal of Direct Instruction*, 3(1), 29-50.

The same standards were applied to the three Success for All studies you cite (Dianda and Flaherty, 1995; Ross, Alberg and McNelis, 1997; and Ross, McNelis, Lewis and Loomis, 1998). Unlike the Waldron-Soler study, pretest differences between the treatment and comparison groups were less than one half of a standard deviation.

*Exclusion of Tobin (2003, 2004) studies*

The Tobin (2003) study indicated that treatment and comparison groups were substantively different on pretest measures, with the differences exceeding half a standard deviation. Because the Tobin (2004) study follows the same students for additional time, it did not meet standards for the same reason.

The same standards were applied to the Success for All study cited in the letter (Smith, Ross, Faulks et al., 1993). Unlike the Tobin studies, pretest differences between the treatment and comparison groups were not statistically significantly different, and they were less than one half of a standard deviation. In keeping with WWC procedures, the WWC obtained information on pretest differences through communication with the study authors.

**The “Create your own summary” feature**

The letter expresses concern about the "create your own summary" feature of the WWC website because the results sort interventions by the magnitude of the improvement index. Because the improvement index calculations accurately reflect the application of the WWC evidence standards and effect size computations to the studies of those interventions, the WWC believes it is informative and useful to practitioners to sort results by improvement index.

The improvement index is one summary measure of the effect of beginning reading interventions. Users can also sort interventions alphabetically (by intervention name), by evidence rating, and by extent of evidence indices.

**From:** What Works  
**Sent:** Tuesday, November 04, 2008 2:41 PM  
**To:** 'weisberg@bama.ua.edu'  
**Subject:** WWC Response to Your Inquiry

Dear Dr. Weisberg,

This e-mail responds to your May 21, 2008 communication regarding the WWC review of your 1988 study "Direct instruction in the preschool." The concern you raised related to the WWC finding that the intervention and comparison groups in the study were not comparable and, thus, that the study did not meet evidence standards. As we indicated in our e-mail dated July 3, 2008, the WWC did submit this study for re-review by a team of WWC reviewers who were not involved in previous reviews of the study. The team also reviewed the information you submitted in October 2008 in response to our author query. The review team concluded that the study did not meet WWC standards for two reasons: (1) this quasi-experimental study did not demonstrate baseline equivalence and (2) there was a confound between treatment and center.

Given the procedures used to assign treatment and control status, this study is considered a quasi-experimental design. As specified in the review protocol for Early Childhood Education interventions (the protocol can be downloaded here: [http://ies.ed.gov/ncee/wwc/PDF/ECE\\_protocol.pdf](http://ies.ed.gov/ncee/wwc/PDF/ECE_protocol.pdf)), studies that use a quasi-experimental design must demonstrate that the treatment and comparison groups were equivalent in terms of the key outcome measures before the intervention was implemented. Thus, the first reason that this study did not meet WWC standards is that the study was unable to demonstrate that the treatment and comparison groups were similar at baseline.

The second reason that the study failed to meet WWC standards is that there is a confound between treatment and center. In this case, the treatment (Direct Instruction) was offered in one center, and thus we are not able to disentangle the effect of the curriculum from any center effects that may be present. As described in the WWC standards (which can be found here: [http://ies.ed.gov/ncee/wwc/pdf/study\\_standards\\_final.pdf](http://ies.ed.gov/ncee/wwc/pdf/study_standards_final.pdf)), studies that have this type of confound do not meet WWC standards.

I hope this information has addressed your concerns.

Sincerely,

What Works Clearinghouse

**From:** WhatWorks  
**Sent:** Friday, February 08, 2008 5:10 PM  
**To:** 'don@nifdi.org'  
**Subject:** re: IES Website: WWC technical questions  
Dear Mr. Crawford,

Thank you for contacting the What Works Clearinghouse (WWC). Please see the response to the questions from your email dated September 5, 2007 below.

1. In education research in general -- and in WWC reviewed studies in particular -- absolute fidelity to the program model is rare. However, we do take steps on WWC to ensure that we are reviewing an appropriate manifestation of the model. As you will see in our intervention reports, we engage in extensive efforts to outline the program model and to determine whether the intervention is appropriately labeled. Differences in implementation are outlined in our reports. That said, as you can imagine, it is extremely difficult to establish criteria by which we can determine that the program examined in one study is implemented according to the model, while the program examined in another study is implemented outside of the scope of the model. Instead, our approach is to accept the authors' claim that the program studied is consistent with the model, but then in our reports, highlight any apparent differences between the program studied and the model.

2. Please continue to direct your questions to the WWC Help Desk at [info@whatworks.ed.gov](mailto:info@whatworks.ed.gov).

a. The WWC has approved studies that have established strong matches using historical data (typically through a rigorous method such as propensity score matching). Generally speaking, the WWC does not consider a general geographic comparison (e.g., compared to all students in a state) to be valid.

b. The WWC is currently developing standards for single subject designs. These criteria are being developed by a panel of methodological experts. These standards will be made public once they are finalized.

c. Studies that do not employ random assignment must demonstrate the initial equivalence of the comparison groups on factors highly correlated with the outcome of interest. If comparison groups are not equivalent at baseline, sufficient statistical controls must be used to equate the groups at analysis

d. Research conducted in the past 20 years (1987-2007) is included.

I hope you found this information helpful. If you have additional questions, please feel free to contact us again.

What Works Clearinghouse

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trusted source of scientific evidence of what works in education. For more information, please visit <http://ies.ed.gov/ncee/wwc/>.

From: don@nifdi.org  
Sent: Wednesday, September 05, 2007 3:43 PM  
To: What Works  
Subject: IES Website: WWC technical questions

1. It is not unusual to see studies in which there are implementations of Direct Instruction (DI) programs in which the program is used without fidelity of implementation. How does WWC guard against drawing conclusions about a program based on lack of fidelity to the model rather than flaws in the model itself?
2. Are general questions (such as the following) appropriately addressed to the PI or is there someone else to ask?
  - a) For a QED (quasi-experimental design) is it necessary for comparison schools to be identified ahead of time, or can they be identified after the fact as appropriate demographic comparisons in the same geographic area?
  - b) In single subject design, is it necessary to have an A/B/A design or would an A/ B design be adequate (reading once learned doesn't go away)? Or would "lack of improvement" be an adequate control when the intervention was removed?
  - c) For a QED would pre-test measures which showed control group to be superior at the outset be adequate, as opposed to exactly equivalent, if no covariant is used to make up for the initial head-start and the experimental group still is significantly ahead of the control group at the end of the study?
  - d) How recent does research need to be to be included?

**From:** WhatWorks  
**Sent:** Friday, February 08, 2008 5:33 PM  
**To:** 'don@nifdi.org'  
**Subject:** IES Website: Technical research questions  
Dear Mr. Crawford,

Thank you for contacting the What Works Clearinghouse (WWC). Please see the response to the questions from your email dated August 31, 2007 below.

- 1.) For a listing of the studies that did not meet WWC evidence screens, you may follow this link: [http://ies.ed.gov/ncee/wwc/reports/early\\_ed/dir\\_instruct/references.asp](http://ies.ed.gov/ncee/wwc/reports/early_ed/dir_instruct/references.asp)
- 2.) The reason a study did not meet WWC evidence screens is provided in footnote format at the bottom of the webpage listed above.
- 3.) You may submit a study for review using the following link to our website: <http://ies.ed.gov/ncee/wwc/openinvite.asp>
- 4.) Studies that do not employ random assignment must demonstrate the initial equivalence of the comparison groups on factors highly correlated with the outcome of interest. If comparison groups are not equivalent at baseline, sufficient statistical controls must be used to equate the groups at analysis. The standards for single subject studies are currently being developed by a panel of methodological experts. These standards will be made available to the public when finalized. Regression discontinuity designs can be reviewed at this time.

Details on study design classifications (and conditions for quasi-experimental studies) can be found at: <http://ies.ed.gov/ncee/wwc/twp.asp>

I hope you found this information helpful. If you have additional questions, please feel free to contact us again.

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From: don@nifdi.org  
Sent: Friday, August 31, 2007 1:54 PM  
To: What Works  
Subject: IES Website: Technical research questions

The National Institute for Direct Instruction has questions regarding the research base on DI such as:

1. Which studies have been reviewed and rejected?
2. Is there a mechanism to see comments or rationale from reviewers regarding rejections?
3. How do we submit other studies?
4. What are the details for accepting or rejecting QED studies, such as regression discontinuity and single subject studies?

We'd like to begin with a phone call please. You can reach me, Dr. Don Crawford, at (877) 485-1973. I also left a voice message yesterday and today.



**From:** WhatWorks

**Sent:** Friday, February 08, 2008 5:40 PM

**To:** 'don@nifdi.org'

**Subject:** re: IES Website: Questions about WWC policies

Dear Mr. Crawford,

Thank you for contacting the What Works Clearinghouse (WWC). Please see the response to the questions from your email dated September 5, 2007 below.

1.) The WWC recently created a Quality Review Team to respond to concerns raised by study authors, curriculum developers or other relevant parties about WWC reviews published on our website. Quality reviews are undertaken when concerned parties present evidence that a WWC review may be inaccurate. When a quality review is conducted, a researcher who was not involved in the initial review undertakes an independent assessment of the study in question. The researcher also investigates the procedures used and decisions made during the original review of the study. If a quality review concludes that the original review was flawed, a revision will be published. These quality reviews are one of tools used to ensure that the standards established by the Institute of Educational Sciences (IES) are upheld on every review conducted by the What Works Clearinghouse.

If you have concerns about a published WWC review that you think warrant a quality review, please send those concerns to our Help Desk at [info@whatworks.ed.gov](mailto:info@whatworks.ed.gov). Please identify the study in question, the specific the issue(s) that you think were handled incorrectly, and where relevant, explain what you think is the correct interpretation of the study.

2.) Throughout the study review process, the WWC is in contact with study authors to ask questions and obtain additional data as needed. Contacts with developers are integrated into the review process and aimed to ensure the accuracy of the reports in a confidential manner.

3.) The WWC literature search is guided by detailed protocols and involves an extensive, comprehensive search. The WWC accepts public submissions and reaches out to experts in the field. Trained WWC staff members use the following strategies in collecting studies:

- **Hand Searches:** hand search the past 20 years (on average) of core journals relevant to all topics plus topic-relevant journals;
- **Electronic Databases:** identify keywords for each topic and search a variety of electronic databases for relevant studies;
- **Submissions:** incorporate studies submitted by the public;
- **Conference Proceedings:** search the conference proceedings of core and topic-relevant associations; contact individuals with potentially relevant presentations for their papers;

- **Website Searches:** search the websites of core and topic-relevant organizations and collect potentially relevant studies; and
- **Extensive Outreach:** contact topic experts and relevant organizations to request studies as well as to request recommendations of other people and organizations that are able to provide studies.

I hope you found this information helpful. If you have additional questions, please feel free to contact us again.

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From: don@nifdi.org  
 Sent: Wednesday, September 05, 2007 3:41 PM  
 To: What Works  
 Subject: IES Website: Questions about WWC policies

1. How does a group, such as a DI research group, give corrective input on already completed reports?
2. How would we ensure that a DI Research consortium would be contacted before you do reports on DI? And who are you currently contacting for Direct Instruction questions?
3. What mechanism is used to gather relevant studies on a given program? Do we submit studies or do you collect them on your own? How do we ensure that you have a complete set of studies before drawing conclusions?

**From:** WhatWorks

**Sent:** Friday, February 08, 2008 5:45 PM

**To:** 'jeans@uoregon.edu'

**Subject:** re: Questions on What Works Clearing House Procedures

Dear Dr. Stockard,

Thank you for contacting the What Works Clearinghouse (WWC). Please see the response to the questions from your email dated December 2, 2007 below.

The first question you raised concerned the cut-off year for studies that are reviewed by the WWC. To maintain a focus on current research, our reviews examine research conducted in the past 20 years. This cut-off date of 20 years is the standard for every topic reviewed by the WWC. The review for Early Childhood Education (ECE), under which Direct Instruction falls, marked its cut-off date at 1985 (the review began in 2005).

The ECE protocol states that “if sufficient time and resources remain after we have completed our review of research on interventions implemented post 1985, the ECE team will consider reviewing older research on curricula that are still in widespread use.” This determination has not been made to date.

In terms of the age/grade range for the review of Direct Instruction research, the ECE team determined the parameters for the review. For further details on inclusion criteria please see the ECE protocol at [http://ies.ed.gov/ncee/wwc/reports/early\\_ed/index.asp](http://ies.ed.gov/ncee/wwc/reports/early_ed/index.asp)

In response to your third question about the qualifications of WWC topic review team members, each team is comprised of several trained professionals, each playing an integral part in the review process. The Principal Investigator (PI) for each topic is a well-known expert in his/her field and is responsible for leadership in conceptualizing the specific topic area, identifying and addressing issues during the review, and developing and reviewing topic and intervention reports developed for the topic. Leadership includes overseeing the quality in the production of the reports and making decisions, based on methodological and substantive expertise, that are not otherwise covered in the WWC protocols and procedures for report production.

The Project Coordinator (PC) is an established education researcher with relevant methodological and substantive expertise. The coordinator oversees the work of the WWC Review Team; manages that specific review; reviews research ratings; and writes and revises the work plan, protocol, and draft and final reports in collaboration with the PI.

Individual reviewers, who prepare initial summaries of studies for the WWC, are professional researchers with experience in research design and methodology. These reviewers undergo a rigorous training and certification process before conducting WWC reviews. For more information about the staff that make up the WWC team, visit <http://ies.ed.gov/ncee/wwc/overview/index.asp>.

The WWC recently created a Quality Review Team to respond to concerns raised by study authors, curriculum developers or other relevant parties about WWC reviews published on our website. These quality reviews are undertaken when concerned parties present evidence that a WWC review may be inaccurate. When a quality review is conducted, a researcher who was not involved in the initial review undertakes an independent assessment of the study in question. The researcher also investigates the procedures used and decisions made during the original review of the study. If a quality review concludes that the original review was flawed, a revision will be published. These quality reviews are one of tools used to ensure that the standards established by the Institute of Educational Sciences (IES) are upheld on every review conducted by the What Works Clearinghouse.

If you have concerns about a published WWC review that you think warrant a quality review, please send those concerns to our Help Desk at [info@whatworks.ed.gov](mailto:info@whatworks.ed.gov). Please identify the study in question, the specific issue(s) that you think were handled incorrectly, and where relevant, explain what you think is the correct interpretation of the study.

I hope you found this information helpful. If you have additional questions, please feel free to contact us again.

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**From:** Jean Stockard [<mailto:jeans@uoregon.edu>]

**Sent:** Sunday, December 02, 2007 12:30 PM

**To:** Mark Dynarski

**Subject:** Questions on What Works Clearing House Procedures

Dear Dr. Dynarski:

I am a sociologist with many years of experience in quantitative research and recently began working with the National Institute for Direct Instruction (NIFDI). One of my first tasks was to read as much of the background research in the area as I could. Along the way I ran into the "What Works Clearinghouse." In my review I developed several questions that I am hoping you can answer.

First, I noticed that the WWC has listed relatively few of the studies that deal with Direct Instruction. While a few were rejected because they didn't meet some specific standards of design, it appears that many others were rejected because they were published before

1985. I have not been able to find a scientific justification for selecting this date. No studies were cited that suggested children's learning styles had altered after that time or that schools' organizational structures or teachers' actions had changed. In fact, the only research article that I found to justify the methods was actually published in 1974 – 10 years prior to the beginning of your targeted dates. This article dealt with phonological awareness, and had nothing to do with systematic literature reviews and, of course, included nothing to suggest that processes related to phonological awareness have changed over time.

In all the other areas with which I am familiar we use the full range of research articles and, unless there are clear reasons established through the research literature, do not set an arbitrary date for inclusion or exclusion of results. The choice of this date seems to have particularly affected the DI literature because a great deal of the pioneering work was published before the cut-off point. Because I'm new to this particular work, I wondered if you could provide me with any explanation based in the research literature for your choice of this cut-off year. I did find a suggestion that, "if sufficient time and resources remain," studies published before 1985 might be reviewed. Do you know if this step will be taken? From my reading of the literature I believe that your limit on dates of studies may have seriously limited the selection of effective resources that educators will find on your website; and I know that this is a primary aim of your project.

Second, I noticed that a number of studies were rejected because they included children outside the K-3 grade range. I found this somewhat unusual, for the children that are most in need of effective instruction are those who have not learned to read by older ages. Because the effectiveness of DI has been so well demonstrated with regular students at the K-3 grade range, the more recent focus on other ages seems only greater evidence of its worth. This is especially so in the case of special education students and those with behavioral and other issues. Thus, I couldn't understand the rationale of omitting all the studies that targeted these most needy students. Any explanation you might have of this decision would also be greatly appreciated.

Third, and perhaps most important, as I read studies more closely I found that the Clearinghouse's interpretation of some of the studies didn't seem to accurately reflect the actual content of the reports. I know that these reviews are often done by staff members or graduate students who might not be familiar with all of the intricacies of social research. Thus, I assume that we can send corrections and they will be added.

I look forward to hearing from you, either through e-mail ([jeans@uoregon.edu](mailto:jeans@uoregon.edu)) or by phone (541-346-5005). I'm sure that we share the ultimate goal of helping all students – no matter what their background – develop academic skills and appreciate your help.

Sincerely,  
Jean Stockard, Professor Emerita

**From:** WhatWorks  
**Sent:** Friday, February 08, 2008 5:49 PM  
**To:** 'ajohnston@nifdi.org'  
**Subject:** re: What Works Clearinghouse  
Dear Ms. Johnston,

Thank you for contacting the What Works Clearinghouse (WWC). Please see the response to your questions below.

1.) Reading Mastery was reviewed under the topic English Language Learners (as opposed to Beginning Reading). You can view the findings at the following link: [http://ies.ed.gov/ncee/wwc/reports/english\\_lang/read\\_master/](http://ies.ed.gov/ncee/wwc/reports/english_lang/read_master/)

2.) Once research on a particular topic and/or intervention has been reviewed by the WWC, additional research on the topic may be submitted to the WWC. WWC intervention reports will be periodically updated based on a determination by IES. You may submit a study for review using the following link to our website: <http://ies.ed.gov/ncee/wwc/openinvite.asp>

3.) The WWC recently created a Quality Review Team to respond to concerns raised by study authors, curriculum developers or other relevant parties about WWC reviews published on our website. These quality reviews are undertaken when concerned parties present evidence that a WWC review may be inaccurate. When a quality review is conducted, a researcher who was not involved in the initial review undertakes an independent assessment of the study in question. The researcher also investigates the procedures used and decisions made during the original review of the study. If a quality review concludes that the original review was flawed, a revision will be published. These quality reviews are one of tools used to ensure that the standards established by the Institute of Educational Sciences (IES) are upheld on every review conducted by the What Works Clearinghouse.

If you have concerns about a published WWC review that you think warrant a quality review, please send those concerns to our Help Desk at [info@whatworks.ed.gov](mailto:info@whatworks.ed.gov). Please identify the study in question, the specific issue(s) that you think were handled incorrectly, and where relevant, explain what you think is the correct interpretation of the study.

4.) In education research in general -- and in WWC reviewed studies in particular -- absolute fidelity to the program model is rare. However, we do take steps on WWC to ensure that we are reviewing an appropriate manifestation of the model. As you will see in our intervention reports, we engage in extensive efforts to outline the program model and to determine whether the intervention is appropriately labeled. Differences in implementation are outlined in our reports. That said, as you can imagine, it is extremely difficult to establish criteria by which we can determine that the program examined in one study is implemented according to the model, while the program examined in another study is implemented outside of the scope of the model. Instead, our approach is to accept

the authors' claim that the program studied is consistent with the model, but then in our reports, highlight any apparent differences between the program studied and the model.

5.) As discussed above, the WWC undertakes a quality review of completed reviews to investigate concerns raised by study authors, curriculum developers and other relevant parties. If you have such concerns, please contact our Help Desk.

I hope you found this information helpful. If you have additional questions, please feel free to contact us again.

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**From:** Amy Johnston [ajohnston@nifdi.org]

- 1) I understand that the Beginning Reading review is still active. However, is there a specific time frame for specific programs. For example, Reading Mastery is a Direct Instruction program that falls under the heading of Beginning Reading. How do we know if this program is currently being reviewed or if it will be reviewed 6 months from or a year from now? We want to make sure that we do not miss our window of opportunity for submission.
- 2) Once a program/intervention has been reviewed, does WWC accept additional studies on the topic and, if so, how does their submission/review affect the earlier report?
- 3) Can corrective input be given for an already completed report and, if yes, what is the process for doing so
- 4) It is not unusual to see studies in which there are implementations of DI programs in which the program is used without fidelity of implementation. How does WWC guard against drawing conclusions about a program based on lack of fidelity to the model rather than flaws to the model itself?
- 5) What is the re-submission process for studies that have already been submitted, but that were incorrectly/inappropriately reviewed or evaluated? In other words, is there an "appeals" process? (this is related/similar to question #2 above)

**From:** Jean Stockard [jeans@uoregon.edu]

**Sent:** Sunday, March 16, 2008 11:59 AM

**To:** WhatWorks

**Subject:** re: Questions on What Works Clearing House Procedures

Thank you for your reply of February 8 to my query of December 2. I am pleased to hear that you have established a Quality Review Team. Since my initial query I have continued to examine the reviews and have found quite a few that appear very problematic. I, and my colleagues, will be submitting our concerns to you within the coming weeks.

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Sincerely,

Jean Stockard, Ph.D.  
Emerita Professor

At 11:44 PM 2/8/2008, you wrote:

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In response to your third question about the qualifications of WWC topic review team members, each team is comprised of several trained professionals, each playing an integral part in the review process. The Principal Investigator (PI) for each topic is a well-known expert in his/her field and is responsible for leadership in conceptualizing the specific topic area, identifying and addressing issues during the review, and developing and reviewing topic and intervention reports developed for the topic. Leadership includes overseeing the quality in the production of the reports and making decisions, based on methodological and substantive expertise, that are not otherwise covered in the WWC protocols and procedures for report production.

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revision will be published. These quality reviews are one of tools used to ensure that the standards established by the Institute of Educational Sciences (IES) are upheld on every review conducted by the What Works Clearinghouse.

If you have concerns about a published WWC review that you think warrant a quality review, please send those concerns to our Help Desk at [info@whatworks.ed.gov](mailto:info@whatworks.ed.gov). Please identify the study in question, the specific issue(s) that you think were handled incorrectly, and where relevant, explain what you think is the correct interpretation of the study.

I hope you found this information helpful. If you have additional questions, please feel free to contact us again.

What Works Clearinghouse

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From: Jean Stockard  
[  
<mailto:jeans@uoregon.edu>]

Sent: Sunday, December 02, 2007 12:30 PM

To: Mark Dynarski

Subject: Questions on What Works Clearing House  
Procedures

Dear Dr. Dynarski:

I am a sociologist with many years of experience in quantitative research and recently began working with the National Institute for Direct Instruction (NIFDI). One of my first tasks was to read as much of the background research in the area as I could. Along the way I ran into the “What Works Clearinghouse.” In my review I developed several questions that I am hoping

you can answer.

First, I noticed that the WWC has listed relatively few of the studies that deal with Direct Instruction. While a few were rejected because they didn't meet some specific standards of design, it appears that many others were rejected because they were published before 1985. I have not been able to find a scientific justification for selecting this date. No studies were cited that suggested children's learning styles had altered after that time or that schools' organizational structures or teachers' actions had changed. In fact, the only research article that I found to justify the methods was actually published in 1974 – 10 years prior to the beginning of your targeted dates. This article dealt with phonological awareness, and had nothing to do with systematic literature reviews and, of course, included nothing to suggest that processes related to phonological awareness have changed over time.

In all the other areas with which I am familiar we use the full range of research articles and, unless there are clear reasons established through the research literature, do not set an arbitrary date for inclusion or exclusion of results. The choice of this date seems to have particularly affected the DI literature because a great deal of the pioneering work was published before the cut-off point. Because I'm new to this particular work, I wondered if you could provide me with any explanation based in the research literature for your choice of this cut-off year. I did find a suggestion that, "if sufficient time and resources remain," studies published before 1985 might be reviewed. Do you know if this step will be taken? From my reading of the literature I believe that your limit on dates of studies may have seriously limited the selection of effective resources that educators will find on your website; and I know that this is a primary aim of your project.

Second, I noticed that a number of studies were rejected because they included children outside the K-3 grade range. I found this somewhat unusual, for the children that are most in need of effective instruction are those who have not learned to read by older ages. Because the effectiveness of DI has been so well demonstrated with regular students at the K-3 grade range, the more recent focus on other ages seems only greater evidence of its worth. This is especially so in the case of special education students and those with behavioral and other issues. Thus, I couldn't understand the rationale of omitting all the studies that targeted these most needy students. Any explanation you might have of this decision would also be greatly appreciated.

Third, and perhaps most important, as I read studies more closely I found that the Clearinghouse's interpretation of some of the studies didn't seem to accurately reflect the actual content of the reports. I know that these reviews are often done by staff members or graduate students who might not be familiar with all of the intricacies of social research. Thus, I assume that we can send corrections and they will be added.

I look forward to hearing from you, either through e-mail ([jeans@uoregon.edu](mailto:jeans@uoregon.edu)) or by phone (541-346-5005). I'm sure that we share the ultimate goal of helping all students – no matter what their background – develop academic skills and appreciate your help.

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Jean Stockard, Professor Emerita  
Department of Planning, Public Policy, and Management  
University of Oregon  
Eugene, Oregon 97403-1209  
phone: 541-346-5005  
fax: 541-346-2040

**From:** WhatWorks

**Sent:** Wednesday, April 09, 2008 4:37 PM

**To:** 'Jean Stockard'

**Subject:** RE: Questions on What Works Clearing House Procedures

Dear Dr. Stockard,

Thank you for contacting the What Works Clearinghouse (WWC). Please see the response to the questions from your email dated March 16, 2008 below.

In response to your first concern, the cut-off date of 20 years is a parameter set to ensure the research reviewed is most-relevant to classrooms as they operate today, and to ensure that the scope of studies to be reviewed is manageable. That said, for every topic reviewed by the WWC, the Principal Investigator (PI) is given the flexibility to include studies published earlier, if they think the expansion is important for the review. In this case, the decision was made to keep the 20 year parameter in place.

In terms of the age-grade parameters established, this is determined by the PI and depends on the topic area and the studies under review. In this case, because the focus of the topic is on early childhood education, the age-grade parameter was set to K-3. Other topic areas have also focused on a subset of age-grade ranges. As the WWC expands, we anticipate expanding these topics to examine outcomes for other age-grade ranges.

The WWC solicited nominations from many sources for the topic areas and prioritized the topic areas based on the following criteria:

- potential to improve important student outcomes;
- applicability to a broad range of students or to particularly important subpopulations;
- policy relevance and perceived demand within the education community; and
- likely availability of scientific studies.

More information about this process and the specific topic areas can be found at <http://ies.ed.gov/ncee/wwc/reports/>.

Three Direct Instruction interventions were reviewed in two topic areas; the spread across topics was due to the samples included in the studies. Direct Instruction falls under the Early Childhood Education (ECE) area since it includes studies with preschool and kindergarten children where the majority (60% or more) of children in the sample are in preschool. This criterion for inclusion can be found at [http://ies.ed.gov/ncee/wwc/pdf/ECE\\_protocol.pdf](http://ies.ed.gov/ncee/wwc/pdf/ECE_protocol.pdf). One Direct Instruction intervention is also included in the English Language Learners topic area since it was used to supplement reading instruction for Spanish speaking students in grades K-3.

We hope you found this information helpful. If you have additional questions, please feel free to contact us again.

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**Sent:** Sunday, March 16, 2008 11:59 AM  
**To:** WhatWorks  
**Subject:** re: Questions on What Works Clearing House Procedures

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