# **FACSIMILE TRANSMISSION**

# **MATHEMATICA**

Policy Research, Inc.

Princeton, NJ Office Tel #: (609) 799-3535 Fax #: (609) 799-0005

DATE:

November 15, 2007

TQ:

Scott Cody

COMPANY: MPR

FAX #:

202-863-1763

FROM:

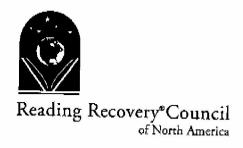
Mark Dynarski

# OF PAGES (including cover sheet): 7

CHARGE #: 6374

**REMARKS:** 

MATHEMATICA POLICY RESEARCH, INC. P.O. Box 2393 Princeton, NJ 08543-2393 (609) 799-3535



November 9, 2007

Mark Dynarski, Associate Director of Research Education Area Leader Mathematica Policy Research, Inc. 600 Alexander Park Princeton, NJ 08540

Dear Dr. Dynarski,

In July, RRCNA wrote to Phoebe Cottingham and Katie Drummond about our concerns with two issues related to the analysis of Reading Recovery research reported by the What Works Clearinghouse. A copy of our inquiry is enclosed. After we learned that the contract for the WWC transitioned from AIR to Mathematica, I passed this along to Jill Constantine.

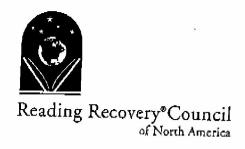
Lucy Gettman, our director of government relations spoke with you at the recent National Board for Education Sciences meeting. I appreciate your suggestion to forward our inquiry to you, since Dr. Constantine is currently on maternity leave.

The leadership of RRCNA is interested in knowing the timeframe we might expect a response to this inquiry. We are having a meeting December 2-3 just after the National Reading Conference in Austin, and I'm hoping to bring them some news. You may call me at 614-310-7331 or email me at jjohnson@readingrecovery.org. I look forward to hearing from you.

Sincerely. (b)(6)

Jady/Johnson(/ Executive Director

**Enclosures** 



September 7, 2007

Jill Constantine, Associate Director Human Services Research Mathematica Policy Research, Inc. 600 Alexander Park Princeton, NJ 08540

Dear Dr. Constantine,

Congratulations on your promotion within Mathematica and on your appointment to lead efforts to evaluate beginning reading programs for the What Works Clearinghouse. The Reading Recovery Council of North America is proud of our positive ratings, made possible because of decades of high quality research conducted on Reading Recovery. Your work to determine and report the effectiveness of reading programs will enable school boards, superintendents, principals, and teachers to make good choices about reading curricula and materials.

In July, RRCNA wrote to Phoebe Cottingham and Katie Drummond about our concerns with two issues related to the analysis of Reading Recovery research. A copy of our inquiry is enclosed. I followed up with Katie two weeks ago, and she said she passed along this documentation to you in the transition from AIR to Mathematica.

I realize you have a demanding role and such a transition is complex. I would like to be able to let Robert Schwartz, the author of the letter and president of RRCNA know the timeframe in which you expect to respond.

You may call me at 614-310-7331 or email me at jjohnson@reading recovery.org. I look forward to hearing from you.

Signerely (b)(6)

Jady Johnson/ Executive Director

Enclosure



July 26, 2007

Phoebe Cottingham, Director National Center for Education Evaluation and Regional Assistance (NCEE) Institute of Education Sciences 555 New Jersey Avenue, NW Washington, DC 20208

## Dear Director Cottingham:

We would like to thank the WWC staff for the careful analysis of the available research reflected in the strong and positive findings of the intervention report. Now that the initial intervention report for Reading Recovery has been published, we would like to discuss some of the issues related to the report that we feel were not adequately addressed in the short period provided for comment on the initial draft. We hope that further discussion will lead to a revised report that will further clarify the research evidence related to Reading Recovery.

There are two major issues related to the research analysis that RRCNA does not believe were adequately resolved in our exchanges prior to the release of the report:

1. the rating of 'potentially positive' vs. 'positive' on the fluency measure, and

2. the inclusion on the Center et al. (1995) study in the overall analysis. These are somewhat related issues since the Center et al. study provides additional evidence related to fluency.

To review the history of our discussion on the Center et al. (1995) study to this point, the following argument was submitted:

We have concerns about the exclusion of the Center et al. study from this review.

(Center, Y., Wheldall, K., Fredman, L., Outhred, L., & McNaught, M. (1995). An evaluation of Reading Recovery. Reading Research Quarterly, 30(2), 240-263.)

We understand that the Clearinghouse applies rigorous criteria for the inclusion of scientific studies in these reviews. While we are surprised about the inclusion of the Baenen et al., 1997 study in this review, we are particularly concerned about the omission of the Center et al. 1995 study. The study used a combination of random assignment and a matched control group to provide a strong test of the

effectiveness of Reading Recovery at the end of the intervention period (mid-first year).

Attrition of the lowest performing students from the random control group after mid-year eliminates the utility of this control group at later testing points. Still, the matched control group provides a one-year follow-up comparison at mid-year two. Center et al. provide individual data on Reading Recovery students and students from the matched comparison group one year after the intervention period. The results of this study are at least as meaningful as those from the follow-up findings in the Baenen et al. study. It is unusual in educational research for programs to be able to demonstrate strong results in studies conducted by critics of the program. The Center et al. study provides this result in well-designed experimental and quasi-experimental comparisons.

The intervention report listed the Center et al. as not meeting the evidence standards with the following note — "Does not use a strong causal design: this study was a quasi-experimental design that used achievement pretests but did not establish that the comparison group was comparable to the treatment group prior to the start of the intervention."

We do not understand how the WWC reached this conclusion for the Center et al. study. First, the design included both a random control group and a quasi-experimental comparison group from schools with similar demographics. Table 3, page 251 reports the means and standard deviations for the pretest measures on the Reading Recovery and Control Groups. Table 7, page 254 reports the same data for the control and comparison groups. For the RR and control group authors report, "multiple comparisons indicated that there were no significant differences between the two groups of students on any literacy measure at the pretest stage" (p. 251). For the control and comparison groups the authors report, "no differences between the two groups of students on any of the Set 2 tests at pretest, posttest, and short-term maintenance testing.

Why does the Center et al. study not report an analysis of pretest scores directly comparing all three groups? It would seem a natural analysis to conduct, but these authors are critics of Reading Recovery and they only consider this data in a context that can been seen as negative for Reading Recovery – lack of "spill-over effect" (p. 252) and reduced success rate (p. 255). I am sure they would not provide WWC with additional information that might support the effectiveness of Reading Recovery! The fact that a study conducted by program critics provides such strong support for the intervention warrants that every effort be made to include their data in the intervention report.

Phoebe Cottingham - July 26, 2007

Here are the means and standard deviations for the three groups at pretest:

<u>Measure</u>	Reading Recovery	Control	<u>Comparison</u>
Clay's book level	.59 (.73)	.47 (.78)	.NA
Burt Word Reading	2.55 (3.85)	.83 (1.21)	.NA
Neale Reading Ability	.68 (1.17)	-17 (.65)	.56 (1.46)
Passage Reading	4.64 (4.70)	2.77 (2.79)	3.74 (5.34)
Waddington Spelling	2.32 (2.30)	1.40 (1.52)	1.82 (2.16)
Phonemic Awareness	24.82 (17.44)	22.67 (14.22)	26.21 (12.91)
Cloze	22,86 (22,28)	23.17 (22.74)	26.35 (23.86)
Word Attack	24.23 (13.55)	17.47 (9.53)	23.65 (12.73)

My analysis of the above differences between the Reading Recovery and Comparison groups yields t values between -.56 and .76 with p values between .87 and .42. I see this as a strong indication that the quasi-experimental groups were initially equivalent.

Given this design, what evidence does this study provide on the effectiveness of Reading Recovery? First, it provides a strong random assignment experiment from pretest to posttest for the Reading Recovery and Random Control groups. Outcomes on eight dependent variables are shown in Table 4 (p. 252) and effect sizes in Table 7 (p. 253). The Passage Reading results provide a fluency measure, the Cloze task a comprehension measure, and the Neale a measure of general reading ability. All of this is valuable information to add to the intervention report.

The analyses relative to the control group are not valid after the posttest measures since the lowest students from the control group were removed to receive the Reading Recovery intervention. The quasi-experiment with the Comparison group is, however, still of value at the medium-term maintenance period, one year after the intervention. Center et al. show the results of eight outcome measures for all three groups at this test period in Table 9 (p. 255). However, in the results section they provide no analysis of differences between the Reading Recovery and Comparison groups at medium-term maintenance (p. 253). Instead they focus on the control group difference even though attrition has made these comparisons meaningless. Fortunately, they provide individual

Phoebe Cottingham - July 26, 2007

scores for every child in both groups in Tables 10 (p. 256) and Table 12 (p. 258). This data makes it quite

easy to calculate differences (except for the typo in Table 10 where .16 is reported instead of 16). This allows a dichotomous analysis of Clay's book level (above or below level 16 would be a reasonable break point for second grade students) and another analysis of fluency based on the Passage Reading test.

The design and methodology in the Center et al. (1995) report seem considerably more detailed than that reported in the Baenen et al. (1997) report. The latter study provides no detail on the assignment procedures, attrition across the study, or pretest and posttest means on the standard measures used in Reading Recovery. The lack of these details makes it impossible to evaluate results they do present. The Center et al. study provides a much stronger set of evidence of program effects especially given the authors' bias against Reading Recovery.

I would be interested in discussing this with you, either by phone or in person, in the near future. Your follow-up may be directed to Jady Johnson, RRCNA Executive Director, who will coordinate with me. Her email address is jjohnson@readingrecovery.org and her direct phone number is 614-310-7331. I appreciate your attention to our concerns.

Sincerely	3	
(b)(6)		
And And		
Bob Schw	artz	
President		
	(b)(6)	
Copy to:		

From: Jady Johnson [jjohnson@readingrecovery.org]

Sent: Thursday, March 06, 2008 5:07 PM

To: What Works

**Subject:** RE: WWC treview of Reading recovery

Jill, thank you for the update. I'm certain the Dr. Schwartz would be happy to

discuss the study with you, if that would be helpful.

Jady

Jady Johnson, Executive Director Reading Recovery Council of North America, Inc. 400 W. Wilson Bridge Rd., Suite 250 Worthington, OH 43085

Worthington, OH 43085

Phone: 614-310-READ (7323)

Fax: 614-310-7345

Email: jjohnson@readingrecovery.org
Web: http://www.readingrecovery.org

The mission of the Reading Recovery Council of North America is to ensure access to Reading Recovery for every child who needs its support.

**From:** What Works [mailto:whatworks@mathematica-mpr.com]

**Sent:** Thursday, March 06, 2008 4:58 PM

To: Jady Johnson

**Cc:** Mark Dynarski; Scott Cody; Mary Grider **Subject:** WWC treview of Reading recovery

Dear Ms Johnson,

We have received your letters requesting that we review the WWC's classification of the Center et al. (1995) study in the WWC review of *Reading Recovery*. We are conducting an additional review of the study and will provide you with our response within two weeks. I apologize for the delay in responding to your inquiries.

#### Jill M. Constantine

Associate Director of Research Deputy Director, What Works Clearinghouse Mathematica Policy Research

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## </CENTER

From: Mark Dynarski

Sent: Monday, March 31, 2008 8:45 AM

**To:** Jady Johnson **Cc:** What Works

**Subject:** RE: WWC review of Reading recovery

I will see that Ms. Constantine gets the message. We use the general mailbox to monitor, store, and search e-mail exchanges related to the WWC.

Regards, Mark

**From:** Jady Johnson [mailto:jjohnson@readingrecovery.org]

Sent: Monday, March 31, 2008 8:17 AM

To: Mark Dynarski

Subject: FW: WWC review of Reading recovery

Dr. Dynarski,

Would you please forward the email below to Jill Constantine? The email address I had for her doesn't seem to be working, and she used a generic address to contact me originally. I wasn't certain if my reply to that address would reach her.

Thanks so much!

Jady

Jady Johnson, Executive Director Reading Recovery Council of North America, Inc. 400 W. Wilson Bridge Rd., Suite 250

Worthington, OH 43085

Phone: 614-310-READ (7323)

Fax: 614-310-7345

Email: jjohnson@readingrecovery.org
Web: http://www.readingrecovery.org

The mission of the Reading Recovery Council of North America is to ensure access to Reading Recovery for every child who needs its support.

From: Jady Johnson

**Sent:** Friday, March 28, 2008 4:27 PM **To:** 'jconstantine@mathematica.mpr.com' **Subject:** WWC review of Reading recovery

Dear Dr. Constantine,

I am following up on your email of March 6, indicating that you were pursuing an additional review of the Center et al. (1995) study. We appreciate your willingness to reconsider this study. Do you have any preliminary findings you can share at this time?

Jady

Jady Johnson, Executive Director
Reading Recovery Council of North America, Inc.

400 W. Wilson Bridge Rd., Suite 250

Worthington, OH 43085

Phone: 614-310-READ (7323)

Fax: 614-310-7345

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#### Jill M. Constantine

Associate Director of Research Deputy Director, What Works Clearinghouse Mathematica Policy Research

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This message can be removed by purchasing a FirstAlert Account.

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#### Robert M. Schwartz, Professor

Department of Reading & Language Arts School of Education and Human Services Oakland University Rochester, MI 48309

Phone: (248) 370-3075, Fax: (248) 370-4367

Email: rschwart@oakland.edu

May 12, 2008

Mark Dynarski, Director What Works Clearinghouse Mathematica P.O. Box 2393 Princeton, NJ 08543-2393

I am responding to the letter from Mark Dynarski, Director of the WWC, date April 13, 2008 in relation to Reference: QR2007001.

First, I would like to say that I do realize that any revision of the Reading Recovery intervention report would involve considerable effort on the part of your organization. If this report is changed in a significant way it would also require a revision of the Beginning Reading Topic report. Since Reading Recovery already is identified as the only program with positive or potential positive findings in all four outcome domains and relatively large effect sizes in each domain, it may not seem necessary to revisit this review.

I respectfully disagree. The federal government and local school districts continue to spend billions of dollars on material-based published programs with no evidence of effectiveness. Reading Recovery is a not-for-profit, university based intervention that depends on high quality professional development and skilled teachers to achieve impressive research and evaluation result over the last 20 years. We are one of the very few programs that make available pretest and post-intervention data on every student who receives the intervention (see the National Data Evaluation Center website for annual evaluation reports: <a href="www.ndec.us">www.ndec.us</a>) This evaluation data demonstrates that the gains achieved in small scale, random assignment studies can be replicated in a national and international dissemination. For this reason, I feel it is critical that the WWC report clearly represent the extent of the research evidence. I don't feel the "potentially positive" rating on fluency and comprehension and the characterization of the extent of evidence as "small" adequately represents the available evidence.

#### Concerns about Exclusion of Center et al. (1995) Study as Evidence

In the previous correspondence I argued for the inclusion of the Center et al. (1995) study. In your response you indicated several reasons why you felt this study did not meet your evidence criteria. Let me respond to those concerns:

While the study employs a randomized control trial (RCT) design, the validity of the design is called into question in part because the treatment and control groups suffer from severe attrition. The initial random assignment created treatment and control groups consisting of 39 students each. The post-test scores used to measure the impact of Reading Recovery are based on 22 students in the treatment group and 30 students in the control group. Combined, the treatment and control groups experience a total sample attrition of 33 percent. Moreover, the treatment group experienced a higher rate of attrition (43 percent) than the control group (23 percent), raising the potential that attrition led to systematic differences between the two groups.

Attrition rates are incorrect. As state on page 247 of Center et al., the Reading Recovery group consisted of 31 not 39 students. The attrition in the post-test scores for the RR group would be 29% not 43%. The medium-term maintenance data in Table 10, page 256, includes 23 RR students, so a year after treatment the attrition rate is only 26%. For the Comparison group, Table 12 reports data for 32 students, an attrition rate of 18%.

When reviewing RCT studies that suffer from high rates of attrition, the WWC also looks at whether resulting treatment and control groups are equivalent on pretest measures of key outcomes. Center et al. claim that the groups are similar at baseline on 8 measures of reading ability. However, the authors establish similarity using a threshold alpha of 0.01, which will only identify extreme differences. The WWC examines differences using another threshold, with two groups viewed as similar if differences in pretest measures are smaller than half of the pooled standard deviation. Using the data provided in Table 3 of the Center et al. study, the treatment group and control group differed by more than half of the pooled standard deviation on 4 of the 8 measures of reading ability (Burts, Neale, Passage Reading Test, and Word Attack Skills Test).

I would not characterize the attrition rate as high. Still, I was surprised that the RR and control groups differed by over .5 standard deviations on the means of four pretest measures. Given these differences I would have expected Center et al. to use regression or covariate analysis to examine post-intervention effects. Still, I would argue that there is evidence of intervention effects in the posttest analysis of the RR and control group performance, especially for Clay's book level test, Burt Word Reading Test, Neale Analysis of Reading Ability, and Passage Reading Test. I can understand why the available evidence for these comparisons may not meet your criteria.

### **Concern About Different Instructional Practices**

The Schwartz letter points out that the Center et al. study also includes a comparison group of students that differs from the control group. However, as the authors point out on page 247, instructional

practices in the comparison schools differ from instructional practices in the Reading Recovery schools. Comparing treatment students with other students will show the effects of combining Reading Recovery with one set of instructional practices at the Reading Recovery schools versus a different set of instructional practices without Reading Recovery in the comparison schools. As the authors note, it is not possible to determine whether and how much of the differences observed between treatment and comparison students is due to Reading Recovery.

This is not a valid design critique of the quasi-experiment involving the Comparison Group. On page 247 Center et al. do not say "instructional practices in the comparison schools differ from instructional practices in the Reading Recovery schools." What Center et al. actually say is "the effect of regular classroom teaching for students in RR schools and in the comparison schools could not be partialled out, so no assumption can be made about similarity of classroom instruction in RR and comparison schools."

This does not mean there was a systematic difference in classroom instruction. Center et al. is only contrasting the random effect of classroom variation in this part of their design with the fact that 90% of the RR and control group students had the same classroom teachers. Still, the comparison students came from five matched schools with a number of first grade teachers. The RR students came from 10 schools, again with a number of first grade teachers. It seems reasonable to treat classroom quality as a random variable not contributing significantly to the observed differences among the RR and Comparison students. This is very similar to the design used by Iversen and Tunmer (1993) where their control group came from matched schools. Schwartz (2005) is the only study that controlled for classroom instruction by randomly assigning two students from the same classroom to treatment and control conditions.

There are several reasons to assume that classroom instruction for the comparison students is similar to that received by the RR students. Fist, these were matched comparison schools. Second, the amount and type of intervention support provided to the control and comparison students, described on page 247, are very similar. Additionally similarity in gains due to instruction is demonstrated in Table 7. At Posttest the Comparison Group seems to be equivalent or slightly higher than the Control Group on all measures except the Phonemic Awareness Test and by the short-term maintenance testing the Comparison group has made gains equal to or better than the Control Group on this measure. Given this evidence it seems unreasonable to assume differential effectiveness of the classroom instruction. The rates of gain for the control group and comparison groups are essentially parallel from pre-test, to posttest and then to the end of first grade.

An analysis of the pretest means and standard deviations for the RR and Comparison groups shows that the two groups are initially equivalent (differences in pretest measures are smaller than half of the pooled standard deviation) on all six measures reported in Table 7 and Table 3 for the comparison and RR groups,

respectively. This is sufficient justification to include the medium-term maintenance analysis of the RR and Comparison group in the WWC report.

I am sure you realize that these authors are critics of Reading Recovery and that is it very rare to have positive evidence of the effectiveness of a program in studies not conducted by individual closely associated with the development of the program.

# Concerns about Exclusion of Quay, Steele, Johnson, & Hortman (2001) Study as Evidence

I would also like to raise a new question related to the RR intervention report. We had initially suggested that the Quay, Steele, Johnson & Hortman (2001) study be included in your evidence analysis.

The WWC did not include this study in your analysis. In the intervention report you cited the reason for this omission as "Disruption: this study, which used a quasi-experimental design, exhibited disruption problems that made it difficult to attribute study outcomes to the intervention, as delivered" (WWC, 2007a, p. 11). This is confusing since nothing in my reading of the design or analysis of this study indicated that 'disruption' was any more of a factor in this research than in any of the other studies included in the WWC analysis. Perhaps this quote from the discussion section in Quay et al. (2001) confounded the analysis:

However, in addition to the Reading Recovery treatment, forces such as maturation, reading instruction in the first-grade classroom, and a variety of other school-related experiences occur during the interval between the pre- and post-tests. Thus, whether Reading Recovery is responsible for the achievement gains cannot be determined conclusively with these methodologies (p. 17).

Possibly the WWC reviewer assumed the authors were describing serious faults in their study when what they provided is a good definition of disruption factors. When read in context, Quay et al. (2001) explain that they conducted an experimental versus control group study to avoid these confounds that might interfere with the interpretation of preand post-test only design. What am I missing? What disruption factors did you identify in this study that resulted in its exclusion?

### **Concern About Text Reading Level Variable**

I would like to return to the question of the Text Reading Level variable included in most RR studies. Because of concerns about the measurement scale for this variable you did not apply the normal parametric method for calculation of effect sizes. This decision resulted in the inclusion of Text Reading Level results only for the Schwartz (2005) study because I was able to provide you with individual data on each student in

the experimental and control groups. This is the primary reason that the fluency rating is only "potentially positive" instead of "positive".

The Center et al. study provides the individual student data you want, if you would include the RR vs. comparison group analysis discussed above. I still think the concern about the measurement scale is unfounded. I have discussed this issue with Tony Bryk and he agrees. No educational measures can guarantee an interval scale. I have calculated the correlations among the variable is the Center et al. study and Text Reading Level correlates very highly (over .85) with the other measures in this study like their Passage Reading Test (the median number of words read correctly in 1 minute from three basal passages).

It seems unreasonable to exclude from your evidence analysis the Text Reading Level result in the Iversen and Tunmer (1993) study where the RR and control group differed by well over 5 standard deviations. Even if you are unwilling to include a 50 point improvement index based on this finding, it should be sufficient to provide supporting evidence to increase the Fluency rating from "potentially positive" to "positive".

### **New Evidence**

New Reading Recovery research is available from a study conducted in high poverty London schools. The link for the reports on this research is <a href="http://www.everychildareader.org/pub/index.cfm">http://www.everychildareader.org/pub/index.cfm</a>. They have a first year report and a second year follow-up report. If you consider up-dating the RR intervention report it would be good to consider this new evidence.

Thank you in advance for considering these questions and concerns. I look forward to your written response.

Robert M. Schwartz

From: Bob Schwartz [rschwart@oakland.edu]

Sent: Monday, May 12, 2008 11:32 AM

To: info@whatworks.ed.gov

Cc: Mark Dynarski; Jady Johnson

Subject: Reading Recovery Intervention Report Reference: QR2007001

Categories: Issue 490

Please find attached our response to your letter of April 13, 2008.

Thank you for your further consideration of our concerns. We look forward to your reply.

Robert M. Schwartz, President Reading Recovery Council of North America rschwart@oakland.edu From: WhatWorks

**Sent:** Friday, June 27, 2008 6:41 PM **To:** 'jjohnson@readingrecovery.org'

Cc: 'rschwart@oakland.edu'

Subject: RE: Reading Recovery Intervention Report Reference: QR2007001

Dear Ms. Johnson,

We did receive Dr. Schwartz's May 12 letter, and we apologize for not confirming receipt. We have been looking into the various issues raised by Dr. Schwartz and are currently preparing our response to his letter. We hope to send the response within the next two weeks, and when we do, we will be sure to send you a copy.

Please let us know if you have any other questions.

#### What Works Clearinghouse

----Original Message----

```
From: Jady Johnson [mailto:jjohnson@readingrecovery.org]
Sent: Thursday, June 26, 2008 10:25 AM
To: info@whatworks.ed.gov; Mark Dynarski
Cc: Bob Schwartz; phoebe.cottingham@ed.gov; grover.whitehurst@ed.gov
Subject: Reading Recovery Intervention Report Reference: QR2007001
Dear Dr. Dynarski,
Please find attached documentation originally emailed to the What Works
Clearinghouse on May 12, 2008 responding to your letter of April 13,
2008. Dr. Schwartz has not yet received confirmation that WWC received
the document, or been informed of the timeframe for its consideration.
I would appreciate any information you might share with me about the
WWC's process. Thank you.
Jady
Jady Johnson, Executive Director
Reading Recovery Council of North America, Inc.
400 W. Wilson Bridge Rd., Suite 250
Worthington, OH 43085
Phone: 614-310-READ (7323)
         614-310-7345
Fax:
        jjohnson@readingrecovery.org
       http://www.readingrecovery.org
The mission of the Reading Recovery Council of North America
is to ensure access to Reading Recovery for every child who needs its
support.
----Original Message----
From: Bob Schwartz [mailto:rschwart@oakland.edu]
Sent: Monday, May 12, 2008 11:32 AM
To: info@whatworks.ed.gov
Cc: Mark Dynarski; Jady Johnson
Subject: Reading Recovery Intervention Report Reference: QR2007001
```

Please find attached our response to your letter of April 13, 2008.

Thank you for your further consideration of our concerns. We look forward to your reply.

Robert M. Schwartz, President Reading Recovery Council of North America rschwart@oakland.edu From: Jady Johnson [jjohnson@readingrecovery.org]

Sent: Wednesday, July 30, 2008 12:36 PM

To: Mark Dynarski; WhatWorks

Cc: Bob Schwartz

Subject: FW: Reading Recovery Intervention Report Reference: QR2007001

Follow Up Flag: Follow up

Flag Status: Red

Please let me know the status of your response to Dr. Schwartz' letter. It has been more than a month since our last contact. Thank you.

Jady

Jady Johnson, Executive Director Reading Recovery Council of North America, Inc. 400 W. Wilson Bridge Rd., Suite 250

Worthington, OH 43085

Phone: 614-310-READ (7323)

Fax: 614-310-7345

Email: jjohnson@readingrecovery.org
Web: http://www.readingrecovery.org

We open doors to a literate future for children who initially struggle in learning to read

and write.

**From:** WhatWorks [mailto:WhatWorks@icfi.com]

**Sent:** Friday, June 27, 2008 7:41 PM

To: Jady Johnson

Cc: rschwart@oakland.edu

Subject: RE: Reading Recovery Intervention Report Reference: QR2007001

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What Works Clearinghouse

```
----Original Message----
From: Jady Johnson [mailto:jjohnson@readingrecovery.org]
Sent: Thursday, June 26, 2008 10:25 AM
To: info@whatworks.ed.gov; Mark Dynarski
Cc: Bob Schwartz; phoebe.cottingham@ed.gov; grover.whitehurst@ed.gov
Subject: Reading Recovery Intervention Report Reference: QR2007001
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support.

----Original Message----

From: Bob Schwartz [mailto:rschwart@oakland.edu]

Sent: Monday, May 12, 2008 11:32 AM

To: info@whatworks.ed.gov

Cc: Mark Dynarski; Jady Johnson

Subject: Reading Recovery Intervention Report Reference: QR2007001

Please find attached our response to your letter of April 13, 2008.

Thank you for your further consideration of our concerns. We look forward to your reply.

Robert M. Schwartz, President Reading Recovery Council of North America rschwart@oakland.edu

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\*



Mark Dynarski Director What Works Clearinghouse P.O. Box 2393 Princeton, NJ 08543-2393 Telephone (609) 799-3535 Fax (609) 799-0005 www.mathematica-mpr.com

August 7, 2008

Dr. Robert Schwartz
Department of Reading & Language Arts
School of Education and Human Services
Oakland University
Rochester, MI 48309

Reference: QR2008006

Dear Dr. Schwartz,

Your May 12 letter raised five concerns about MPR reviews of Reading Recovery studies: (1) exclusion of Center et al. (2) different instructional practices, (3) exclusion of Quay et al., (4) text reading level variables, and (5) the availability of new evidence. A response to each issue is provided below.

### Issue 1: Concerns about Exclusion of Center et al. (1995) Study as Evidence

Your letter contends that attrition rates calculated by the WWC are incorrect. To determine the number of students for whom there are posttest data, the WWC used the sample sizes reported along with the authors' presentation of the main results. Thus, according to the footnote in Table 4 on page 252, the posttest means are based on 22 students for the treatment group and 30 students for the control group. While these counts differ from statements in other sections of the report (where the authors state they have posttest data on 23 and 31 students respectively), the WWC used the counts of 22 and 30 because they accompany the main impact estimates.

It is unclear from the authors' description what number should be used as the original sample size. According to the description of the assignment methods, the original random assignment process created a treatment group of 39 students and a control group of 39 students. As stated on pages 246-247 of the study: "In the 10 RR schools... eight children in each school (6 from the school with low enrollment) were... randomly assigned by teachers,... to two groups, the experimental and control." The WWC used these original assignment counts to compute attrition. Thus, when computed from the original 39 students assigned, the 22 treatment group students and 30 control group students reflect attrition rates of 43.6 and 23.1 percent,

MEMO TO: Dr. Robert Schwartz
FROM: Mark Dynarski
DATE: August 7, 2008

PAGE: 2

respectively (see table, below). The combined total attrition is 33.3 percent and the differential attrition is 20.5 percent. These rates exceed the WWC thresholds for attrition.

As you note, however, the authors claim the original sample size for the Reading Recover treatment group is 31 students. Their description of how they arrive at this number, which is 8 fewer students than originally assigned, is unclear. If these 8 students were removed from the treatment group through a process of random selection, then it would be reasonable to compute attrition from a group size of 31. But the authors do not explain how these 8 students were removed; they only state that 7 students were moved to the holding group. It is possible that these 7 students were selected randomly, but it is also possible that these 7 students were selected based on their reading ability.

In this case, whether or not the students were removed at random does not affect the final WWC rating for this study. If we assume that the 8 students were randomly removed from the original 39 treatment students and compute attrition relative to 31 students, the overall attrition would be 25.7 percent and the differential attrition would be 5.9 percent. The overall attrition rate still exceeds the WWC thresholds.

	Computation A	Computation B
Treatment Group		
Original Sample	39	31
Posttest Sample (from Table 4)	22	22
Attrition	43.6	29.0
Control Group		
Original Sample	39	39
Posttest Sample (from Table 4)	30	30
Attrition	23.1	23.1
<b>Groups Combined</b>		
Original Sample	78	70
Posttest Sample	52	52
Total Attrition	33.3	25.7
Differential Attrition	20.5	5.9

As stated in the WWC standards, if a randomized control trial suffers from severe overall or differential attrition, the authors must demonstrate that the groups were equivalent at baseline in terms of key outcomes. This study was determined not to meet standards because the groups are

**MEMO TO:** Dr. Robert Schwartz

FROM: Mark Dynarski DATE: August 7, 2008

PAGE: 3

not equivalent. As your letter notes, differences of more than 1/2 standard deviations are large. Because the authors did not account for these differences in their analysis, the study does not meet WWC standards.

#### **Issue 2: Concern about Different Instructional Practices**

Your letter raised concerns about our justification for not examining evidence that could be derived by comparing the Reading Recovery group with the comparison group. It is clear that the authors did not intend to use the comparison group to generate estimates of the impact of Reading Recovery on the treatment students. Rather, the authors emphasized that the comparison group was formed "in order to examine the contextual or spill-over effects" by comparing the control group to the comparison group. WWC guidelines preclude reviewers from performing additional analysis if that analysis was not intended as evidence by the authors. Thus, regardless of whether the comparison group is deemed an appropriate counterfactual for the treatment group, the WWC review cannot include impact estimates derived from the treatment and comparison groups because that comparison was not the intent of the authors.

# Issue 3: Concerns about Exclusion of Quay, Steele, Johnson, & Hortman (2001) Study as Evidence

After reviewing your suggestion that we examine the Quay, Steele, Johnson, & Hortman (2001) study, we decided to submit this study for review. A new team of reviewers will examine this study in the coming weeks to determine whether it meets WWC evidence standards. We will inform you about the results of the investigation when it is complete.

#### **Issue 4: Concern about Text Reading Level Variable**

Your letter expressed concerns about our rationale for not applying the parametric method for computing effect sizes for the Text Reading Level measure. The measure is a subtest that reports reading levels based on ordinal, rather than equal-interval, scales. This limits comparing effect sizes between studies. For example, the increase in fluency measured by scoring at level 3 compared with level 2 on the scale may not be equal to the increase in fluency as measured by scoring at level 24 compared with level 23. To support between-studies comparisons, we converted the Text Reading Level outcome to a non-parametric measure using the additional information from the authors on the number of students scoring at each level.

<sup>&</sup>lt;sup>1</sup> See Denton, C. A., Ciancio, D. J., & Fletcher, J. M. (2006). Validity, Reliability, and Utilityof the Observation Survey of Early Literacy Achievement. *Reading Research Quarterly*, 41(1), 8–34.

MEMO TO:Dr. Robert SchwartzFROM:Mark DynarskiDATE:August 7, 2008

PAGE: 4

## **Issue 5: New Evidence**

We appreciate your submission of new evidence and will include it in our next round of reviews.

Sincerely,

Mark Algrarda

From: Jady Johnson [jjohnson@readingrecovery.org]

Sent: Thursday, June 26, 2008 10:25 AM To: info@whatworks.ed.gov; Mark Dynarski

Cc: Bob Schwartz; phoebe.cottingham@ed.gov; grover.whitehurst@ed.gov
Subject: Reading Recovery Intervention Report Reference: QR2007001
Attachments: WWCCenterresp3.doc; ATT03960.txt

Dear Dr. Dynarski,

Please find attached documentation originally emailed to the What Works Clearinghouse on May 12, 2008 responding to your letter of April 13, 2008. Dr. Schwartz has not yet received confirmation that WWC received the document, or been informed of the timeframe for its consideration.

I would appreciate any information you might share with me about the WWC's process. Thank you.

Jady

Jady Johnson, Executive Director Reading Recovery Council of North America, Inc. 400 W. Wilson Bridge Rd., Suite 250 Worthington, OH 43085

Phone: 614-310-READ (7323) Fax: 614-310-7345

Email: jjohnson@readingrecovery.org
Web: http://www.readingrecovery.org

The mission of the Reading Recovery Council of North America is to ensure access to Reading Recovery for every child who needs its support.

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To: info@whatworks.ed.gov

Cc: Mark Dynarski; Jady Johnson

Subject: Reading Recovery Intervention Report Reference: QR2007001

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Thank you for your further consideration of our concerns. We look forward to your reply.

Robert M. Schwartz, President Reading Recovery Council of North America rschwart@oakland.edu From: Mark Dynarski [MDynarski@mathematica-mpr.com]

Sent: Thursday, June 26, 2008 5:45 PM

To: Jady Johnson

Cc: Bob Schwartz; phoebe.cottingham@ed.gov; grover.whitehurst@ed.gov;

info@whatworks.ed.gov

Subject: RE: Reading Recovery Intervention Report Reference: QR2007001

WWC staff are checking the research articles cited in the letter and the statistical arguments and should be back to you shortly.

Regards, Mark

----Original Message----

From: Jady Johnson [mailto:jjohnson@readingrecovery.org]

Sent: Thursday, June 26, 2008 10:25 AM To: info@whatworks.ed.gov; Mark Dynarski

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Subject: Reading Recovery Intervention Report Reference: QR2007001

Please find attached our response to your letter of April 13, 2008.

Thank you for your further consideration of our concerns. We look forward to your reply.

Robert M. Schwartz, President Reading Recovery Council of North America rschwart@oakland.edu From: WhatWorks

**Sent:** Friday, June 27, 2008 6:41 PM **To:** 'jjohnson@readingrecovery.org'

Cc: 'rschwart@oakland.edu'

Subject: RE: Reading Recovery Intervention Report Reference: QR2007001

Dear Ms. Johnson,

We did receive Dr. Schwartz's May 12 letter, and we apologize for not confirming receipt. We have been looking into the various issues raised by Dr. Schwartz and are currently preparing our response to his letter. We hope to send the response within the next two weeks, and when we do, we will be sure to send you a copy.

Please let us know if you have any other questions.

#### What Works Clearinghouse

----Original Message----

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Sent: Thursday, June 26, 2008 10:25 AM
To: info@whatworks.ed.gov; Mark Dynarski
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Reading Recovery Council of North America, Inc.
400 W. Wilson Bridge Rd., Suite 250
Worthington, OH 43085
Phone: 614-310-READ (7323)
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Fax:
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Thank you for your further consideration of our concerns. We look forward to your reply.

Robert M. Schwartz, President Reading Recovery Council of North America rschwart@oakland.edu From: Jady Johnson [jjohnson@readingrecovery.org]

Sent: Monday, June 30, 2008 7:34 AM

To: WhatWorks

Subject: RE: Reading Recovery Intervention Report Reference: QR2007001

Thank you so much!

Jady

Jady Johnson, Executive Director Reading Recovery Council of North America, Inc. 400 W. Wilson Bridge Rd., Suite 250

Worthington, OH 43085

Phone: 614-310-READ (7323)

Fax: 614-310-7345

Email: <u>jjohnson@readingrecovery.org</u>
Web: http://www.readingrecovery.org

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**From:** WhatWorks [mailto:WhatWorks@icfi.com]

Sent: Friday, June 27, 2008 7:41 PM

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Cc: rschwart@oakland.edu

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From: Tahra Nichols

Sent: Monday, July 07, 2008 4:43 PM

To: What Works Cc: Mary Grider

Subject: FW: What Works Clearinghouse - Beginning Reading Review

(Reading Recovery)

 $\mbox{Hi: I'm}$  sending this to the help desk because  $\mbox{I'm}$  assuming there are official responses to these types

of questions. Please advise.

- Tahra

From: Jady Johnson [mailto:jjohnson@readingrecovery.org]

Sent: Monday, July 07, 2008 4:21 PM To: Tahra Nichols; Jill Constantine

Cc: Mark Dynarski

Subject: RE: What Works Clearinghouse - Beginning Reading Review (Reading Recovery)

Dear Dr. Constantine and Ms. Nichols,

Thank you for sending notice of the WWC plans to update the report on Beginning

Reading. I have just a few background questions:

1. It is our understanding that this new initiative is intended to update research not  $\ensuremath{\mathsf{I}}$ 

previously reviewed by the WWC. Is it true that the references already reviewed

and published will remain on the WWC website and the update will add to the  $\ensuremath{\text{\text{th}}}$ 

body of knowledge reflected in the current report? Please confirm.

2. Are the criteria you plan to apply in the updated review of research the same as

the criteria used previously? If the criteria have changed, where have they been  $% \left( 1\right) =\left( 1\right) +\left( 1\right) +\left$ 

published so we might become familiar with them?

3. Is this updated review of beginning reading programs discussed anywhere on

the WWC website? I haven't been able to find it.

4. Since the summer of 2007, we have been in discussions with Mark Dynarski

about reconsideration of the Center et al. study (1995) and the Quay study

(2001). Will that reconsideration process continue and be treated separately

from this updated review?

Please note that the Schwartz study (2005) published in the Journal of Educational

Psychology listed on page four of the document you sent was already accepted by the  $\ensuremath{\mathtt{WWC}}$  in the original review.

I appreciate your attention and look forward to your response.

Jady

Jady Johnson, Executive Director

Reading Recovery Council of North America, Inc.

400 W. Wilson Bridge Rd., Suite 250

Worthington, OH 43085

Phone: 614-310-READ (7323) Fax: 614-310-7345

Email: jjohnson@readingrecovery.org
Web: http://www.readingrecovery.org

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From: Tahra Nichols [mailto:TNichols@mathematica-mpr.com]

Sent: Tuesday, July 01, 2008 10:08 AM

To: Jady Johnson Cc: Tahra Nichols

Subject: What Works Clearinghouse - Beginning Reading Review (Reading

Recovery)

July 1, 2008

Jady Johnson, Executive Director Reading Recovery Council of North America 400 W. Wilson Bridge Rd., Suite 250 Worthington, OH 43085

The purpose of this letter is to notify you that we may be including Reading Recovery in the  $\,$ 

 $\mathtt{WWC's}$  updated review of Beginning Reading interventions. The attached letter provides more

information on the three stages in which we will contact you and the forms we are requesting  $% \left( 1\right) =\left( 1\right) +\left( 1\right$ 

that you or your designee sign/submit no later than July 15, 2008.

Again, thank you for your time.

Sincerely, Tahra Nichols

\*

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From: rschwart@oakland.edu

Sent: Monday, November 03, 2008 1:33 PM

To: info@whatworks.ed.gov

Subject: IES Website: Contact Us: Evidence Standards, Reference ID

Number: 1448055248

info@whatworks.ed.gov, this email was automatically sent through the  ${\tt Contact}$ 

link on the WWC website.

From: rschwart@oakland.edu

Message: I understand that you are developing criteria to consider regression

discontinuity designs. I would like to receive this information as soon as it

is available.

Robert Schwartz Professor, Oakland University From: WhatWorks

Sent: Tuesday, November 04, 2008 6:23 PM

To: 'rschwart@oakland.edu'

**Subject:** What Works Clearinghouse (WWC 847)

Dear Dr. Schwartz,

Thank you for contacting the What Works Clearinghouse (WWC). The standards for regression discontinuity designs and single-case studies are still under development and we do not currently have an estimated date for the release of those standards. We will send you an email when they have been released.

If you would like to be notified of new releases (including publications and updates) to the WWC website, you can sign up for the WWC blast e-mail list. If you would like to be added to the WWC blast e-mail list, please respond to this e-mail letting us know.

You also can find out what's new at the WWC by visiting the "What's New" page, accessible at <a href="http://ies.ed.gov/ncee/wwc/whatsnew/">http://ies.ed.gov/ncee/wwc/whatsnew/</a>, or subscribing to the "What's New" RSS feed by visiting <a href="http://ies.ed.gov/ncee/wwc/whatsnew/whatsnew\_rss.asp">http://ies.ed.gov/ncee/wwc/whatsnew/whatsnew\_rss.asp</a>. This feed is updated when new material is posted to the WWC website. The feed can by accessed by clicking on the RSS/XML button near the bottom of the home page. Simply click on the feed link, then click on "Subscribe to this feed." Internet Explorer, version 7 supports the RSS feed.

If you have additional questions about the WWC, please feel free to contact us again.

# What Works Clearinghouse

The What Works Clearinghouse was 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. For more information, please visit <a href="http://ies.ed.gov/ncee/wwc/">http://ies.ed.gov/ncee/wwc/</a>.

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Robert Schwartz
Professor, Oakland University
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From: Robert Schwartz [rschwart@oakland.edu] Sent: Wednesday, November 05, 2008 8:16 AM

To: WhatWorks

**Subject:** Re: What Works Clearinghouse (WWC 847)

Thank you. Please add me to the blast e-mail list.

On Tue, Nov 4, 2008 at 7:22 PM, WhatWorks < WhatWorks@icfi.com > wrote:

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Bob Schwartz Oakland University From: WhatWorks

Sent: Wednesday, November 05, 2008 9:31 AM

To: 'Robert Schwartz'

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Bob Schwartz Oakland University



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October 31, 2008

Dr. Robert Schwartz
Department of Reading & Language Arts
School of Education and Human Services
Oakland University
Rochester, MI 48309

Reference: QR2008006

Dear Dr. Schwartz,

This letter is a follow up to my August 7 letter, which responded to the concerns you raised about the What Works Clearinghouse reviews of Reading Recovery studies. As noted in that letter, in response to your suggestion that the WWC reexamine the Quay, Steele, Johnson, & Hortman (2001) study, we submitted this study for review by a team of WWC reviewers who were not involved in previous reviews of the study. The team reached the same conclusion that this study does not meet evidence standards.

As specified in the protocol for the Beginning Reading topic area (which is available at <a href="http://ies.ed.gov/ncee/wwc/PDF/BR">http://ies.ed.gov/ncee/wwc/PDF/BR</a> protocol.pdf), studies that do not form treatment and comparison groups through a random assignment process must demonstrate that the groups are comparable at baseline. In the Quay study, classrooms were assigned to Reading Recovery through a random process. However, the procedures used to select which students received Reading Recovery in the treatment classrooms differed from the procedures used to select which students in the comparison classrooms would be part of the comparison group. Because these processes differ, the WWC does not consider these groups to have been formed through a random assignment process.

Reviewers then assessed whether the study meets WWC standards with reservations, which requires that the study demonstrate that students in the treatment group were similar at baseline to students in the comparison group in terms of outcome measures. However, baseline equivalence is not documented in the study and the authors did not respond to several requests for data to demonstrate baseline equivalence. Without evidence that the students in the treatment group were comparable to students in the comparison group at baseline, the WWC is unable to conclude that the Quay et al. study meets evidence standards with reservations.

I hope this information has addressed your concerns.

Sincerely,

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July 31, 2008

Dr. Robert Schwartz
Department of Reading & Language Arts
School of Education and Human Services
Oakland University
Rochester, MI 48309

Reference: QR2008006

Dear Dr. Schwartz,

Your May 12 letter raised five concerns about MPR reviews of Reading Recovery studies:

- (1) exclusion of Center et al. (2) different instructional practices, (3) exclusion of Quay et al.,
- (4) text reading level variables, and (5) the availability of new evidence. A response to each issue is provided below.

## Issue 1: Concerns about Exclusion of Center et al. (1995) Study as Evidence

Your letter contends that attrition rates calculated by the WWC are incorrect. The WWC computed attrition from the point of assignment based on the information presented in pages 246-247 of the study: "In the 10 RR schools... eight children in each school (6 from the school with low enrollment) were... randomly assigned by teachers,... to two groups, the experimental and control." Based on this information, the WWC concluded that there were 39 students in the RR group initially (rather than the reported 31). As a result, the 22 students for whom post-test data are available reflect a 43 percent rate of attrition from the original 39 students assigned.

This study was determined not to meet standards because the authors did not demonstrate baseline equivalence. As your letter notes, differences of more than 0.5 standard deviations are large. Studies that do not account for these differences do not meet WWC standards.

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## **Issue 2: Concern about Different Instructional Practices**

Your letter raised concerns about our justification for not examining evidence that could be derived by comparing the Reading Recovery group with the comparison group. It is clear that the authors did not intend to use the comparison group to generate estimates of the impact of Reading Recovery on the treatment students. Rather, the authors emphasized that the comparison group was formed in "order to examine the contextual or spill-over effects" by comparing the control group to the comparison group. WWC guidelines preclude reviewers from performing additional analysis if that analysis was not intended as evidence by the authors. Thus, regardless of whether the comparison group is deemed an appropriate counterfactual for the treatment group, the WWC review cannot include impact estimates derived from the treatment and comparison groups because that comparison was not the intent of the authors.

# Issue 3: Concerns about Exclusion of Quay, Steele, Johnson, & Hortman (2001) Study as Evidence

After reviewing your suggestion that we examine the Quay, Steele, Johnson, & Hortman (2001) study, we decided to submit this study for review. A new team of reviewers will examine this study in the coming weeks to determine whether it meets WWC evidence standards. We will inform you about the results of the investigation when it is complete.

# Issue 4: Concern about Text Reading Level Variable

Your letter expressed concerns about our rationale for not applying the parametric method for computing effect sizes for the Text Reading Level measure. The measure is a subtest that reports reading levels based on ordinal, rather than equal-interval, scales. This limits comparing effect sizes between studies. For example, the increase in fluency measured by scoring at level 3 compared with level 2 on the scale may not be equal to the increase in fluency as measured by scoring at level 24 compared with level 23. To support between-studies comparisons, we converted the Text Reading Level outcome to a non-parametric measure using the additional information from the authors on the number of students scoring at each level.

<sup>&</sup>lt;sup>1</sup> See Denton, C. A., Ciancio, D. J., & Fletcher, J. M. (2006). Validity, Reliability, and Utilityof the Observation Survey of Early Literacy Achievement. Reading Research Quarterly, 41(1), 8–34.

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# **Issue 5: New Evidence**

We appreciate your submission of new evidence and will include it in our next round of reviews.

I hope this has answered your concerns.

Sincerely,

Mark Myrarsh



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April 13, 2008

Ms. Jady Johnson Executive Director Reading Recovery Council of North America 400 W Wilson Bridge Road, Suite 250 Worthington, OH 43085

Reference: QR2007001

Dear Ms. Johnson:

In response to your November 9 letter concerning the What Works Clearinghouse (WWC) review of the 1995 Center et al. study of Reading Recovery, the WWC reviewed the rating of that study. The finding of this review, discussed in detail below, is that the original rating of this study is accurate. The Center et al. study does not meet WWC evidence standards due to key differences between the treatment and control groups.

Your November 9 letter included as an attachment a letter from Bob Schwartz to Phoebe Cottingham from July 26, 2007. The Schwartz letter contested the WWC rating of the Center et al., (1995) study as not meeting evidence standards. In the WWC Reading Recovery intervention report, the explanation for why this study did not meet evidence standards is given as:

Incomparable groups: this study was a quasi-experimental design that used achievement pretests but it did not establish that the comparison group was comparable to the treatment group prior to the start of the intervention.

The researcher conducting the review arrived at the same conclusions as the original reviewers of this study. While the study employs a randomized control trial (RCT) design, the validity of the design is called into question in part because the treatment and control groups suffer from severe attrition. The initial random assignment created treatment and control groups consisting of 39 students each. The post-test scores used to measure the impact of Reading Recovery are based on 22 students in the treatment group and 30 students in the control group. Combined, the treatment and control groups experience a total sample attrition of 33 percent. Moreover, the treatment group experienced a higher rate of attrition (43 percent)

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than the control group (23 percent), raising the potential that attrition led to systematic differences between the two groups.

When reviewing RCT studies that suffer from high rates of attrition, the WWC also looks at whether resulting treatment and control groups are equivalent on pretest measures of key outcomes. Center et al. claim that the groups are similar at baseline on 8 measures of reading ability. However, the authors establish similarity using a threshold alpha of 0.01, which will only identify extreme differences. The WWC examines differences using another threshold, with two groups viewed as similar if differences in pretest measures are smaller than half of the pooled standard deviation. Using the data provided in Table 3 of the Center et al. study, the treatment group and control group differed by more than half of the pooled standard deviation on 4 of the 8 measures of reading ability (Burts, Neale, Passage Reading Test, and Word Attack Skills Test).

The Schwartz letter points out that the Center et al. study also includes a comparison group of students that differs from the control group. However, as the authors point out on page 247, instructional practices in the comparison schools differ from instructional practices in the Reading Recovery schools. Comparing treatment students with other students will show the effects of combining Reading Recovery with one set of instructional practices at the Reading Recovery schools versus a different set of instructional practices without Reading Recovery in the comparison schools. As the authors note, it is not possible to determine whether and how much of the differences observed between treatment and comparison students is due to Reading Recovery.

I trust this addresses the questions and concerns you have about the What Works Clearinghouse review of the 1995 Center et al. study of Reading Recovery.

Sincerely,

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