

What Works Clearinghouse

Brief Study Report



Reviewed Study: Schneider, C. L. (2000). *Connected Mathematics and the Texas Assessment of Academic Skills. Dissertation Abstracts International, 62 (02), 503. (UMI No. 3004373)*

WWC Study Reports are intended to support decision making; neither the What Works Clearinghouse (WWC) nor the U.S. Department of Education endorses any interventions. No single Study Report should be used as a basis for making policy decisions because (1) few studies are designed and implemented flawlessly and (2) all studies are tested on a limited number of participants, using a limited number of outcomes, at a limited number of times, so generalizing from one study to any context is very difficult. To highlight these issues, the WWC Study Reports describe in detail the specifics of each study, focusing primarily on studies that provide the best evidence of effects (randomized controlled trials). Systematic reviews of the evidence will be conducted to summarize the results of the individual studies.

See the WWC [Detailed Study Report \(PDF\)](#) for more information about this study.

Topic:	Curriculum-Based Interventions for Increasing K–12 Math Achievement—Middle School Connected Mathematics Project
Intervention:	
Research Design:	Quasi-Experimental Design with Matching
Study Rating:	
Date Released:	September 15, 2004
Summary of Results:	Schneider found no statistically significant differences between the intervention and comparison groups on the school-level Texas Assessment of Academic Skills (TAAS) analyzed in the study. The findings may have been affected by only three schools implementing more than one-third of the total math problems in each year and grade. In addition, the sample size was small.

= Meets Evidence Standards = Meets Evidence Standards with Reservations = Does Not Meet Evidence Standards

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What Is This Report About?

The Connected Mathematics Project (CMP) is a comprehensive middle school mathematics curriculum developed for grades 6 through 8. The CMP is reported to align with the National Council of Teachers of Mathematics (NCTM) standards. This Brief WWC Study Report reviews a study of the effect of the CMP curriculum on students' mathematics achievement on the Texas state assessment test. This report summarizes the study and reviews its strengths and weaknesses.

How Was the Study Conducted?

Schneider compares the mathematics performance of schools using the CMP curriculum with comparison schools on the Texas Assessment of Academic Skills (TAAS). Like the CMP curriculum, the TAAS—the mandatory state assessment test—is reported to align with the NCTM standards. Schneider did not report on what curriculum the comparison schools used.

Schneider reports on schools selected from the pool of schools in Texas using the CMP curriculum. Another selection criterion was that teachers from these schools attended the six-day summer training organized by the Texas Statewide Systematic Initiative (SSI) in 1996, 1997, and 1998. Twenty-three schools using the CMP curriculum were selected. Comparison schools in Texas were selected by matching them to the 23 schools using the CMP on the basis of the prior school-level passing rates on the TAAS, school enrollment, and demographic data such as school mobility and ethnicity. On the basis of these criteria, 23 schools were first selected for the comparison group. Two additional schools were added to the comparison group because they were feeder schools to two of the comparison schools already in the sample. Thus, there were a total of 25 comparison schools.

Schneider reports two outcome measures of interest: the school-level TAAS passing rate in mathematics and the student-level Texas Learning Index (TLI). TLI is a TAAS-scaled score pegged to the exit-level passing standard. These school-level outcome measures are reported because their level matches the level of intervention delivery.

Schneider groups the students into three groups. Students who experienced the CMP curriculum from grades 6 through 8 in 1996–1997 and 1998–1999 are in Group 1. Students who had the curriculum in grades 6 and 7 from 1997–1998 and 1998–1999 are in Group 2. Students who had the curriculum only in grade 6 in 1998–1999 are in Group 3.

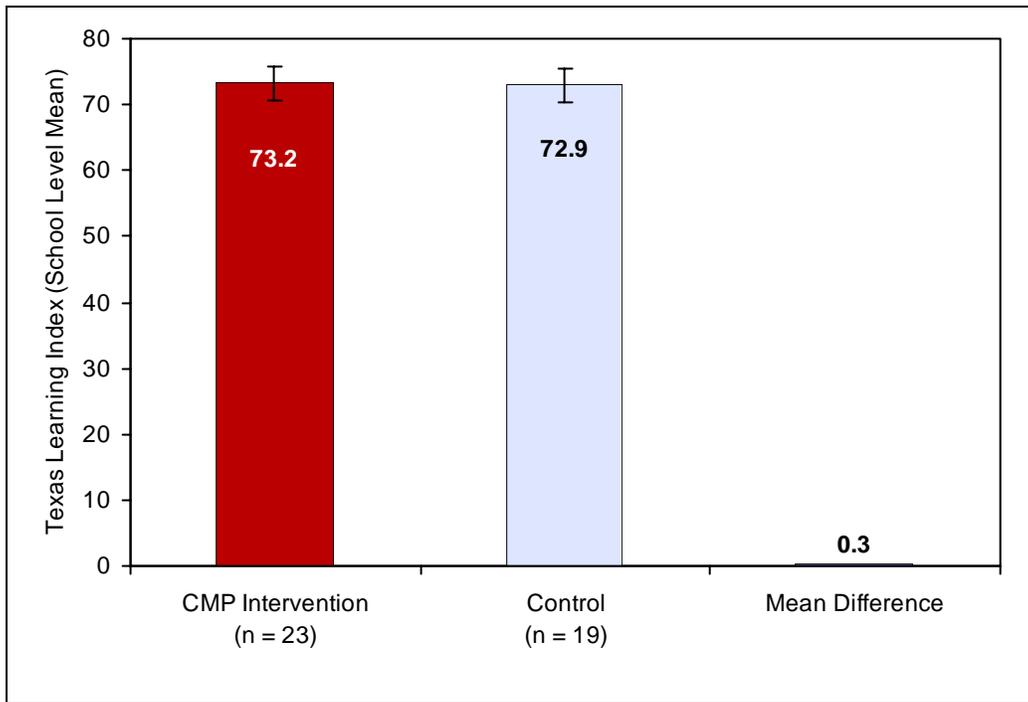
In addition, Schneider also groups a subset of schools that are defined as high-implementation schools or schools that reported covering more than one-third of the curriculum in one grade and in one year. None of the schools using the CMP curriculum report having the goal of completing the full curriculum in one grade and one year.

What Did the Study Find?

Schneider tests the significance of the TAAS passing rate findings through hierarchical linear modeling (HLM) analyses. The HLM analysis did not find any significant difference between schools using CMP and comparison schools. No significant difference is found in the analyses separated by groups of varying duration of intervention. In addition, no significant difference is found in analysis of high-implementation schools using CMP and the matched comparison schools.

In a follow-up, Schneider also provides the TLI posttest mean scores at each school, allowing the means and standard deviations at the school level to be derived. Figures 1a to 1c show the means and standard deviations for each group.

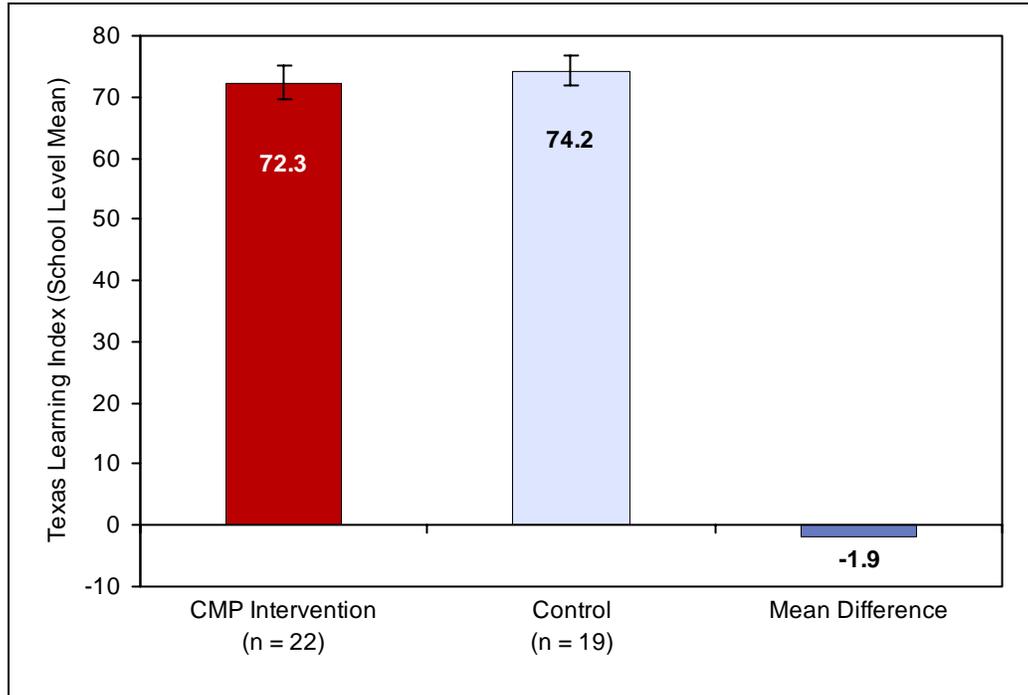
Figure 1a. Impact Reported by Schneider (2000):^a School-Level TLI Posttest Scores in Group 1



Note. TLI = Texas Learning Index.

^a Confidence intervals are computed by the WWC. Schneider reports that the intervention group scores do not differ significantly from the comparison group scores on the Texas Assessment of Academic Skills.

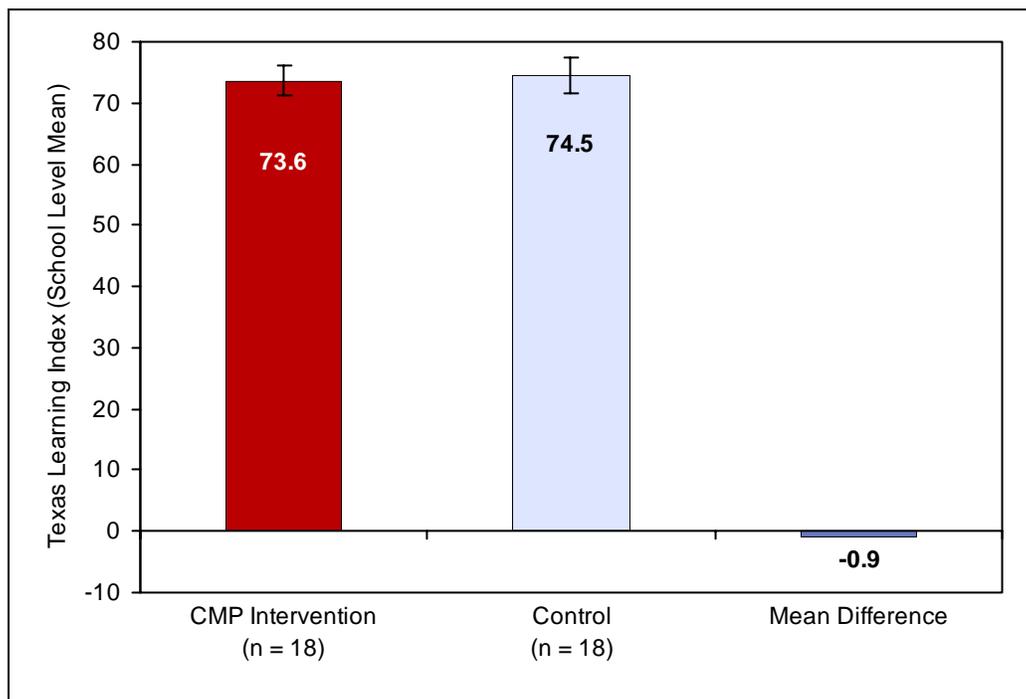
Figure 1b. Impact Reported by Schneider (2000):^a School-Level TLI Posttest Scores in Group 2



Note. TLI = Texas Learning Index.

^a Confidence intervals are computed by the WWC. Schneider reports that the intervention group scores do not differ significantly from the comparison group scores on the Texas Assessment of Academic Skills.

Figure 1c. Impact Reported by Schneider (2000):^a School-Level TLI Posttest Scores in Group 3



Note. TLI = Texas Learning Index.

^a Confidence intervals are computed by the WWC. Schneider reports that the intervention group scores do not differ significantly from the comparison group on the Texas Assessment of Academic Skills.

How Can You Find Out More?

- To learn more about this study, read the [detailed report \(PDF\)](#).
- See reports on [other studies of Middle School Math curricula](#).
- Cost information is available at the publisher's website www.phschool.com/math/cmp/index.html
- **Intervention Developer Contact Information:** Contact the local Prentice Hall Sales Representative at their general number 1-800-848-9500; contact CMP at 517-432-2820; or visit the website www.math.msu.edu/cmp/index.html.

Report Production

- **Date created:** September 15, 2004
- **Topic area reviewed under:** Curriculum-Based Interventions for Increasing K–12 Math Achievement—Middle School

WWC Study Ratings^a: Schneider (2000)

Causal Validity: Meets WWC Standards with Reservations, a Quasi-Experimental Design with Matching and No Attrition or Disruption Problems

Intervention schools were matched on relevant variables with similar comparison schools in Texas. The author does not address pretest differences between the two groups after the selection of the matched comparison schools. There was no attrition at the school level, and no extraneous events were identified that appeared to confound the intervention's effect.

Other Study Characteristics	Study Rating	Study-Specific Information
Intervention Fidelity	●●	The CMP intervention is well implemented and well designed and meets the definition of middle school math.
Outcome Measures	●●	The primary outcome measure (TAAS) shows evidence of face validity and reliability and is properly aligned.
People, Settings, and Timing	●	Although the sample represents some important characteristics of targets, it does not represent others. The outcome measure was given some time in April, just before the end of the school year.
Testing within Subgroups	●	The intervention effect was tested across the entire sample but not within important subgroups.
Analysis	●	Schneider's analysis is at the school level, which is the same level as the unit of intervention delivery. The sample sizes are too small at the school level to allow for sufficiently precise estimates of the effect size.
Statistical Reporting	●●	The statistical tests are adequately reported, and effect sizes can be estimated for the outcome measure of interest.

Note. ●● Fully meets criteria; ● Meets minimum criteria; ✕ Does not meet criteria.

^a For more information on the criteria used to rate this study, see the WWC Evidence Standards: [Middle School Math](#).