

# Class Percentage of Students With Reading Difficulties on Content Knowledge and Comprehension

Vaughn, S., Fall, A.-M., Roberts, G., Wanzek, J., Swanson, E., & Martinez, L. R. (2019). Class percentage of students with reading difficulties on content knowledge and comprehension. *Journal of Learning Disabilities, 52*(2), 120–134. <https://doi.org/10.1177/0022219418775117>

## Study Background and Purpose

Almost a quarter of eighth-grade students do not read well enough to understand important concepts and make simple inferences from text-based materials (National Center for Education Statistics, 2015). The need to enhance reading comprehension in middle school is confounded by underdeveloped background knowledge, limited academic vocabulary, and the increasing difficulty of comprehending more advanced texts. As a result, “late-emerging” reading difficulties emerge in late elementary school. To support reading comprehension in schools, comprehension instruction must be integrated into content area classroom practices.

To meet this challenge, **Promoting Adolescents’ Comprehension of Text (PACT)** was designed to improve middle school students’ content area knowledge and comprehension of social studies text. PACT supports struggling readers through a language-rich environment of speaking, writing, and reading critical terms related to the intervention. The research team worked closely with secondary social studies teachers for 2 years to design the evidence-based PACT components:

- **Comprehension Canopy:** An engaging springboard into the lesson
- **Essential Words:** Key vocabulary related to the unit
- **Knowledge Acquisition:** Text-based instruction and reading
- **Team-Based Learning:** Comprehension checks
- **Knowledge Application:** Content knowledge applied to a novel, engaging activity

Teachers and administrators debate the best composition of students with learning needs per classroom. Although homogeneous grouping within classes can be associated with improved student outcomes, there are also challenges when the class composition represents too many students with learning needs.

The purpose of this study was to examine the conditional effects for struggling readers in classrooms that vary in the proportion of struggling readers.

## Method and Measures

A total of 18 teachers from seven middle schools participated in this randomized controlled trial, and 1,629 students were randomly assigned to their social studies classes. Of the participants, 42% were identified as having reading comprehension difficulties. Each teacher’s classes were randomly assigned to either the treatment (PACT) or comparison (business as usual) condition. This means that teachers used the PACT instructional practices in some classes (treatment) but not in others (business as usual). Of the 94 social studies classes, 49 were treatment classes and 45 were comparison classes. In both conditions, teachers taught the same social studies content. Only the PACT classes received the PACT instructional practices.

Before the school year, teachers participated in an intensive 1-day (8-hour) professional development workshop covering implementation of the PACT intervention and study design features related to maintaining a “firewall” between treatment and comparison conditions (because teachers would lead both PACT and comparison classes). Teachers were also provided in-class coaching support in their treatment classes.

Students in the treatment classes received three PACT instructional units in 10-day cycles that were aligned to the district curriculum map. Teachers received semi-scripted lesson plans and a daily schedule identifying the components to be delivered on each day. In total, teachers implemented 30 sessions of the intervention, taking between 6 and 10 weeks. In the comparison classes, students worked at the same pace and received the same content using the district-approved curriculum and state-developed scope and sequence (without PACT practices).

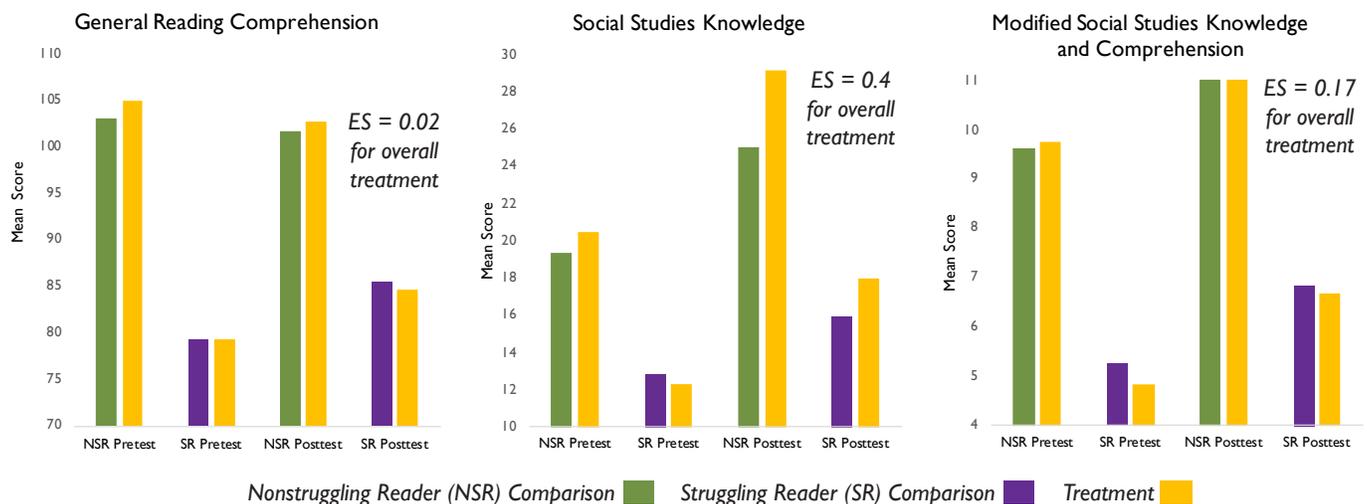
After the three units, teachers taught the Knowledge Acquisition component for an additional 12 weeks. This component was performed three times a week for 15 minutes per session.

The study used the following measures for pretests and posttests:

- Gates-MacGinitie Reading Comprehension Subtest: A standardized measure of general reading comprehension
- ASK Content Knowledge: A researcher-developed measure of the studies knowledge from the PACT intervention
- Modified Assessment of Social Studies Knowledge and Comprehension: A multiple-choice measure of reading comprehension in social studies

## Results

The PACT treatment group outperformed the comparison group on social studies subject knowledge and content reading comprehension at posttest. These group differences were statistically significant. This means that the group differences were not due to chance. Instead, they were due to the PACT instructional practices.



## Implications for Practice

- The proportion of struggling readers in a class affects overall reading gains for students. Students have the most potential to grow with PACT-like intervention if less than 20% of the class are struggling readers.
- PACT implementation can improve student content knowledge in social studies.
- Students who were in the PACT classrooms gained more knowledge than those in the comparison classes and retained that knowledge over a longer period of time.
- PACT allows the integration of lecture-style teaching, which many social studies teachers prefer. Findings suggest that increasing emerging pedagogies in the classroom can improve student outcomes.

- Strong instruction in key vocabulary allowed for greater understanding of content.
- PACT's team-based learning approaches increase student engagement.
- Using PACT is an effective way to meet the Common Core State Standards that focus on learning content from expository texts.
- Teachers reported that PACT is a feasible approach to implement in the classroom.

## **Reference**

National Center for Education Statistics. (2015). *National assessment of educational progress*. <https://nces.ed.gov/nationsreportcard>

***Summary prepared by Blair Payne and Elizabeth Swanson, Ph.D.***