

The Impact of Teacher Fidelity on the Reading Progress of Students with Disabilities

**The North Carolina State Improvement Project
North Carolina Department of Public Instruction
2008-2009**

Introduction

The North Carolina State Improvement Project (NCSIP II) is funded by the Office of Special Education Programs (OSEP) in the U.S. Department of Education. The purpose of this report is to present the NCSIP project's Instruction Fidelity System and the impact of the use of these procedures to improve the reading progress of students with disabilities.

To facilitate this report the following topics will be addressed; (1) The Components of the NCSIP Instruction Fidelity System, (2) The Use of Research-Based Instructional Models, (3) Data Collection and Analyses Procedures and Limitations, and (4) The Impact of Teacher Fidelity on the Reading Gains of Students with Disabilities.

Components of the NCSIP Instruction Fidelity System

The NCSIP II Instruction Fidelity System includes the following three major components; (1) The Staff Development Protocol, (2) On-site Fidelity Observations with feedback, and (3) A Student Progress Evaluation and Feedback System.

Staff Development Protocol. The NCSIP project has established a series of teacher training strategies used to address the goal of assuring that all NCSIP teachers demonstrate the knowledge and skills to provide effective research-based instruction. These strategies include intensive reading foundations training, video demonstration of effective instructional procedures for teachers in training and, post training examination of the teachers' knowledge and skills.

To facilitate research-based model instruction protocols the learning needs of students with disabilities are identified and employed by the NCSIP II project. An excellent set of guidelines for Fidelity of Implementation has been developed by the National Research Center on Learning Disabilities. (Johnson, E., Mellard, D.F. Fuchs, D., & McKnight, M.A. (2006) Responsiveness to intervention (RTI): How to do it. Lawrence, KS: National Research center on Learning Disabilities.

On-site Fidelity Observation System. The NCSIP II staff have reviewed a number of reading model instruction programs and with the cooperation of publishers have developed Fidelity Observation forms to used to observe the extent that a teacher demonstrates a high level of fidelity. These models include Corrective and Reading Mastery, Language!, the Hill Center Reading Program, the Saxon Reading Program, The Wilson Reading Program, Read Well, Foundations, Letterland and The Sonday System.

Using the Fidelity Observation forms the NCSIP II regional reading consultants and project staff conducted a number of fidelity observations across the projects. In addition, the regional reading consultants provided on-site reading fidelity training for teachers across the NCSIP reading projects observations.

Student Progress Evaluation System. The evaluation system for reading gains made by NCSIP reading students includes a component that addresses the impact of teacher fidelity on student gains. The fidelity evaluation involves the analysis of student reading gains taught by teachers demonstrating high fidelity compared to gains of students taught by NCSIP teachers who demonstrate low fidelity instruction. The evaluation results are presented later in this report.

The Use of Research-Based Instruction Models

Early in the NCSIP project a research-based reading instruction workshop entitled *Teaching Students with Persistent Reading Problems* was adopted by the NCSIP II. The workshop was developed by Rebecca Felton and David Lillie in partnership with the Guilford County School System in North Carolina. Since the initiation of the NCSIP project in 2000 the *Teaching Students with Persistent Reading Problems* staff development program has been revised and updated by the NCSIP staff and now is entitled *The NCSIP Foundation Training in Reading Instruction*.

The NCSIP II reading instruction workshops are designed to develop teacher knowledge and skills needed to provide effective instruction for students with persistent reading difficulties. The instructional principles in the program are supported by an extensive body of reading instruction research used with students with reading disability and/or difficulties. A summary of the supporting research conducted by the NCSIP project staff can be found at <<http://www.ncsip.org>> in the Evidence Based Instruction section of the NCSIP website.

The NCSIP reading instruction reflects the findings of two reports addressing the instructional needs of students with reading problems. *Teaching Children to Read*, a report of the National Reading Panel, and *Preventing Reading Problems of Young Children*, a report sponsored by the National Reading Council of the National Academy of Sciences. Below is a list of some of the instructional strategies that are used in the NCSIP project to improve basic reading skills of students with disabilities.

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- Direct, explicit, systematic and sequential instruction
 - Development of phonological awareness skills
 - Development of decoding (word attack) skills
 - Progression from the simplest to most difficult tasks
 - Word structure instruction (e.g., phonics, syllables, patterns, etc.)
 - Development of encoding (spelling) skills
 - Teaching irregular words for both reading and spelling
 - Specific training in fluency
 - Instruction in vocabulary and reading comprehension
 - Instruction in syntax
 - Integration with written language instruction

- Use of multi-sensory teaching strategies, and
 - Reduced size of the instructional group
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Data Collection, Analysis Procedures and Limitations

The assessment content and procedures developed and implemented by the Accountability Services Division in the North Carolina Department of Public Instruction are used by the NCSIP II to measure student progress in reading annually. In addition an evaluation of student reading progress in relationship to teacher fidelity ratings is also conducted.

End-of- grade reading assessments are annually administered to all students statewide in the spring of each year. The assessment results are used by NCSIP II to compare the reading progress of three groups of students including students with disabilities receiving NCSIP II instruction, students with disabilities statewide, and all non-disabled students in North Carolina.

The NCSIP II evaluation system does not employ a controlled research design. Students are not randomly assigned to specific instructional treatment groups and the project does not control for pre-analyses reading differences in the groups of students being compared. For example, many students with disabilities participating in the statewide grade-level assessments do not demonstrate serious reading difficulties. Students receiving reading instruction in NCSIP II projects are selected to participate in the projects because they are seriously below grade level in reading skills. The project also assumes that each LEA reading site participating in the evaluation accurately transfers grade level student progress data to the NCSIP II data collection forms.

Once the reading gains data are received a variety of data analyses can be conducted using the SAS JMP data analysis system (Lehman, A., O'Rourke, Hatcher, L., and Stepanski, E. (2005) JMP for basic univariate and multivariate statistics: A step-by-step guide. SAS. Cary, North Carolina.

As indicated above the reading assessment content and procedures developed and implemented by the Accountability Services Division in the North Carolina Department of Public Instruction are used by the NCSIP II project to measure student progress in reading. Each year gains in the percentage of students demonstrating reading abilities at or above grade level (%AAGL) are used to compare the reading progress of each group of students participating in the evaluation

Each of the NCSIP II reading instruction sites designate an Evaluation Coordinator to complete the data collection forms for the project using the data generated by the annual assessments. The NCSIP II data collection forms can be found at <<http://www.ncsip.org>> in the Evaluation and Accountability section under *Evaluation Resources*.

The Impact of Teacher Fidelity on Reading Gains of Students With Disabilities

To facilitate the NCSIP II teacher fidelity observation process trained observers conducted the fidelity ratings. The rating process employed a decimal number rating continuum of 0.1 through

3.0. To obtain a High Fidelity rating a teacher had to demonstrate a fidelity level of 2.5 or higher. A Low Fidelity observation rating was assigned to teachers with a rating of 2.4 or lower.

To facilitate the data analyses there are two parts to Table 1 below. The first part indicates that 359 students received instruction from Low Fidelity teachers and 1668 students received instruction from High Fidelity Teachers.

Table 1 also compares the percentage of students at or above grade level receiving instruction from Low Fidelity teachers to the percentage of students at or above grade level receiving instruction from High Fidelity teachers. In the spring of 2008 and again in the spring of 2009 virtually 1668 students participated in the student progress analyses. There was a difference of only two students in the population of the students participating in the reading progress analysis in 2008 and in 2009.

A data analysis was also conducted to review the reading gains made in the percentage of students with disabilities performing at or above grade level. In 2008 sixteen percent of the students receiving reading instruction from Low Fidelity teachers performed at or above grade level. In 2009 twenty-seven percent of the students receiving reading instruction from Low Fidelity teachers performed at grade level for an eleven percentage point gain from the 2008 to the 2009.

In 2008 fourteen percent of the students receiving reading instruction from High Fidelity teachers performed at or above grade level. In 2009 thirty percent of the students receiving reading instruction from High Fidelity teachers performed at or above grade level for a gain of sixteen percentage points.

A reading gain of eleven percentage points was made by the 359 students receiving instruction from Low Fidelity teachers while a sixteen percentage point gain was made by the 1668 students receiving instruction from High fidelity teachers.

Table 1
NCSIP Teacher Fidelity Observation Rating Levels
And Student Gains in Reading
2008-2009

Teacher Fidelity Rating	Number of Students Participating	% AAGL 2008*	%AAGL 2009*	Gain
Low Fidelity Ratings (0 to 2.4)**	359 in 2008 359 in 2009	16	27	11
High Fidelity Ratings*** (2.5 to 3)	1664 in 2008 1668 in 2009	14	30	16

* Percentage of students at or above grade level

** Low Teacher fidelity ratings of 0 through 2.4

*** High Teacher fidelity ratings of 2.5 through 3

These results suggest that an appropriate fidelity observation system can make a difference in the reading ability gains of students with disabilities. These data support the conclusion that the NCSIP II project is meeting the project goal to improve the reading skills of students with disabilities.