



Direct Instruction with African American Students: An Annotated Bibliography

November 2, 2011

The article summaries below were taken from a searchable data base of research on Direct Instruction at the National Institute for Direct Instruction (<http://www.nifdi.org/15/di-research-database>). The vast majority of the articles indicate that students studying with the DI programs had greater achievement gains than those using other programs. There are no studies in which students in other programs had significantly greater gains than those in DI. Only articles that included substantial numbers of African American students were included. The exact proportion of African American students included is noted for studies in which they comprised less than half of the sample.

I. Elementary and Preschool

A. Reading

1. Benner, G., Kinder, D., Beaudoin, K., & Stein, M. (2005). The effects of the Corrective Reading Decoding program on the basic reading skills and social adjustment of students with high-incidence disabilities. *Journal of Direct Instruction*, 5(1), 67-80.

This study examined the effects of the Corrective Reading Decoding program on the basic reading skills and social adjustment of elementary and middle school students with high-incidence disabilities. Results indicate that students in the Corrective Reading program demonstrated significantly higher scores than comparison students in the areas of basic reading skills and oral reading fluency.

2. Brent, G. & Diobilda, N. (1993). Effects of curriculum alignment versus Direct Instruction of urban children. *Journal of Educational Research*, 86(6), 333-338.

This study compared a school that implemented a Direct Instruction program and a school that implemented a traditional program as part of project Follow Through. Program effects and student mobility effects on student achievement in math, language arts, and reading were measured. Results indicate that the Direct Instruction program produced significantly higher scores in mathematics on the Metropolitan Achievement Test (MAT) and scores similar to those produced by the traditional program on the

Comprehensive Test of Basic Skills (CTBS). Additionally, stable students demonstrated significantly higher scores than mobile students on the CTBS.

3. Carlson, C. & Francis, D. (2002). Increasing the reading achievement of at-risk children through Direct Instruction: Evaluation of the Rodeo Institute for Teacher Excellence (RITE). *Journal of Education for Students Placed at Risk*, 7(2), 141-166.

This study examined the effects of the Direct Instruction-based Rodeo Institute for Teacher Excellence (RITE) program on reading achievement of all K-2 students in the program. Effects were measured yearly, as well as longitudinally across three years. Results indicate that students enrolled in the RITE program consistently outperformed comparison students on standardized reading measures. Additionally, it was found that the greater the number of years that students participated in RITE, they greater they outperformed comparison students. Effects of teacher implementation were also measured.

4. Crowe, E., Connor, C., & Petscher, Y. (2009). Examining the core: Relations among reading curricula, poverty, and first through third grade reading achievement. *Journal of School Psychology*, 47, 187-214.

This study used latent growth models to compare growth in oral reading skills over one year for students using 6 different reading curricula: Open Court, Reading Mastery, Harcourt, Houghton Mifflin, Scott Foresman, Success for All. Over 30,000 students were included in the analysis. Students were randomly selected from participating schools. The dependent measure was Oral Reading Fluency, assessed with DIBELS passages at four times during the school year. Growth differed by grade level and curriculum. The authors summarized the results (p. 209) "Overall, students in the Reading Mastery curriculum demonstrated generally greater ORF growth than students other curricula. Also, they more frequently met or exceeded benchmarks for adequate achievement in first, second and third grade." The effect size for Reading Mastery versus other curricula in first grade was .44.

5. Gersten, R., Darch, C. & Gleason, M. (1988). Effectiveness of a Direct Instruction academic kindergarten for low-income students. *The Elementary School Journal*, 89(2), 227-240.

This study compared the effects of implementing a Direct Instruction model beginning in kindergarten with DI instruction beginning in first grade. A non-DI group of students was selected to serve as a comparison. Achievement effects through third grade were measured. Additionally, the long-term achievement effects were examined for both

groups of students when they reached ninth grade. Results indicate that, by the end of third grade, students who received an academic kindergarten made greater gains than students who began DI instruction in first grade, with the largest effects demonstrated in reading. Lastly, longitudinal effects of DI instruction indicate that students who received DI, with or without an academic kindergarten, performed significantly better in reading and language than non-DI comparison students in ninth grade. Those DI students who participated in an academic kindergarten also performed significantly better than comparison students in math, and demonstrated higher scores on the California Achievement Test (CAT) than DI students who began instruction in first grade.

6. Gersten, R., Carnine, D., Zoref, L, & Cronin, D. (1986). A multifaceted study of change in seven inner-city schools. *The Elementary School Journal*, 86(3), 258-276.

This article describes a study that evaluated a large-scale implementation of the Direct Instruction education model in seven inner-city schools as part of Project Follow Through. The study spanned two years and measured the effects of the DISTAR language and reading programs. Across schools, there was substantial variation in achievement gains. The intent of this study was to explore the variables that may have contributed to this variation, specifically examining the role that level of implementation played. The study also looked at the change from pre to post-implementation in teacher and paraprofessional attitudes toward DI. Results indicate that level of implementation was found to have a moderate to high correlation with achievement gains. The authors discuss the teacher performance variables that were most related to achievement outcomes. (52% African American)

7. Kamps, D., Wills, H., Greenwood, C., Thorne, S., Lazo, J., Crockett, J., Akers, J., & Swaggart, B. (2003). Curriculum influences on growth in early reading fluency for students with academic and behavioral risks: A descriptive study. *Journal of Emotional and Behavioral Disorders*, 11(4), 211-224.

This study examined the reading growth of students who were part of an early-screening model in five urban schools across three years. Students were screened for risk of behavior problems by teacher ratings, nominations, and classroom observations, and screened for risk of academic problems by teacher nominations and DIBELS probes. Three schools selected a literature-based reading curriculum, one selected the Direct Instruction reading program, Reading Mastery, and one selected Success for All. Results indicate that students who received reading instruction with Reading Mastery achieved greater gains in reading fluency than students receiving Success for All, and Success for All produced better reading growth than the literature-based reading program.

8. Ligas, M. (2002). Evaluation of Broward County Alliance of Quality Schools project. *Journal of Education for Students Placed at Risk*, 7(2), 117-139.

The Alliance of Quality Schools is an academic and behavioral intervention model that was implemented in the Broward County School District. This article examines the effects of the model on academic achievement for children in elementary and middle school across five years of implementation. The model emphasizes Direct Instruction as the core of the academic program, utilizing Reading Mastery, Corrective Reading, and Language for Learning. Additionally, other supplemental programs were adopted, including Junior Great Books, Computer Curriculum Corporation computer-assisted reading instruction program, Accelerated Reader, and a systematic writing program. Results indicate the greatest increases in reading achievement occurred in the fourth grade, while the greatest gains in mathematics achievement were demonstrated in the fifth grade. Other results are variable at each grade level.

(78% African American)

9. O'Brien, D. & Ware, A. (2002). Implementing research-based reading programs in the Fort Worth Independent School District. *Journal of Education for Students Placed at Risk*, 7(2), 167-195.

This study analyzed the results of a large-scale implementation of Reading Mastery and Open Court as core reading programs in the Fort Worth Independent School District. Eighteen schools selected Reading Mastery, while fourteen chose Open Court as the core reading program. Outcomes of both programs were compared to reading achievement scores of schools who implemented traditional reading instruction as well as to national norms. Results indicate that students receiving reading instruction in Open Court and Reading Mastery made statistically significant gains, while students receiving traditional instruction did not significantly differ from the norming sample. Improvements were especially significant for minority and economically disadvantaged students, as well as kindergarten students.

10. Riepl, J., Marchand-Martella, N., & Martella, R. (2008). The effects of Reading Mastery Plus on the beginning reading skills of students with intellectual and developmental disabilities. *Journal of Direct Instruction*, 8(1), 29-39.

This study examined the effects of using Reading Mastery Plus with six K-2 students with intellectual and developmental disabilities. Dynamic Indicators of Basic Early Literacy Skills (DIBELS) probes were used to assess reading achievement growth. Results indicate that all students made substantial gains on reading fluency measures. (33% African American)

11. Ross, S., Nunnery, J., Goldfeder, E., McDonald, A., Rachor, R., Hornbeck, M., & Fleischman, S. (2004). Using school reform models to improve reading achievement: A longitudinal study of Direct Instruction and Success for All in an urban district. *Journal of education for Students Placed at Risk*, 9(4), 357-388.

This study examined the impact of two whole school reform models, Direct Instruction (DI) and Success For All (SFA), on student achievement outcomes and school climate. Two elementary schools implemented SFA, while six implemented DI; comparison schools consisted of the remaining elementary schools in the district, and were matched to experimental schools based on similarity in demographics and student achievement. Results indicate that, for student achievement outcomes overall, pretest-posttest growth was not significantly different between experimental schools (implementing either DI or SFA) and comparison schools. This varied across schools, with some schools reporting generally positive trends and others demonstrating generally negative trends. The article discusses possible explanations for this variability across schools, as well as school and district variables that appear to influence the effectiveness of these reform models.

12. Sexton, C. (1989). Effectiveness of the DISTAR Reading I program in developing first graders' language skills. *Journal of Educational Research*, 82(5), 289-293.

This study compares the effects of two reading programs, the Direct Instruction program, DISTAR Reading, and a basal reading program, Harcourt Brace Jovanovich Basal Reading Program, on first graders' language ability. Students' language ability was initially assessed with the Metropolitan Readiness Test and compared to post-test scores on the Slosson Intelligence Test. Results indicate that students who received instruction with DISTAR outperformed comparison students, with a mean score that was 9 points higher than students in the basal reading program. Additionally, when DI students with average to high initial language ability were compared to DI students with low language ability at pretest, both groups performed equally well following intervention.

13. Stockard, J. (2011). Direct Instruction and first grade reading achievement: The role of technical support and time of implementation. *Journal of Direct Instruction*, 11(1), 31-50.

The purpose of this study was to examine the relationship of two implementation variables (source of technical support and time of implementation) to first grade reading achievement across three naturally occurring conditions over a six year time span. All first graders (n=40,000) who were in the Baltimore City Public School System from 1997-98 through 2002-03 were included in the study. Two of the conditions involved implementation of Direct Instruction (DI) curriculum programs, one with technical support from a purveyor associated with the curriculum's developer (the National

Institute for Direct Instruction) and the other with a group not associated with the developer. Eleven schools were in the first group, and five schools were in the second. The third condition involved implementation of Open Court (103 schools). The study examined changes in average first grade achievement, measured by the Comprehensive Test of Basic Skills (vocabulary, comprehension, and composite scores) over this six year time-span. Combining data across all years (1998-2003) students in NIFDI-supported schools had significantly higher achievement than students in the Control schools on all three measures of achievement and significantly higher comprehension scores than students in the Other DI schools. When the socio-economic characteristics of the schools were controlled, the students in the NIFDI-supported schools had significantly higher achievement scores than students in both the Other DI schools and the control schools on all measures of achievement. First grade students in all 3 groups of schools had higher achievement scores in 2003 than in 1998, but the increase was significantly larger for students in NIFDI-supported schools than for students in the other schools. On average, first grade composite reading achievement scores in the NIFDI-supported schools increased by 113 percent from 1998 to 2003, while achievement in the control schools and the Other DI schools increased by 56 percent or less. The magnitude of the effect on first grade achievement from attending a NIFDI-supported school was statistically significant and substantively large. At the end of the study period (2003) the effect size (Cohen's *d*) of attending a NIFDI-supported school versus attending an Other DI school on composite achievement was .63. The effect of attending a NIFDI-supported school versus a Control school was .82. Thus, the use of Direct Instruction curricula, the purveyor of technical support and the time of implementation all had significant effects on reading achievement.

14. Stockard, J. (2010). Promoting early literacy of preschool children: A study of the effectiveness of Funnix Beginning Reading. *Journal of Direct Instruction*, 10, 29-48.

Thirty-seven four-year-old students in a Head Start program in a suburban community in the southern United States were randomly assigned to receive 30 minutes of additional instruction each day in their usual language arts curriculum or 30 minutes of instruction with the Direct Instruction program, Funnix Beginning Reading. Instruction for the Funnix group was provided by high school-aged tutors, who were trained and supervised by an experienced teacher. Pretesting before instruction began indicated no significant differences between the two groups in the DIBELS letter naming fluency or initial sound fluency measures. However, by winter and spring the students in the Funnix group had significantly higher scores on numerous measures of beginning literacy. Significant differences remained with multivariate analyses that controlled for initial levels of skill and minority status. Equivalent results also appeared when a reduced sample that individually matched children on pretest scores and minority status was used. Effect

sizes (Cohen's d) in winter and spring ranged from .51 to 2.24, depending on the measure that was used. (35% African American)

15. Stockard, J. (2010). Promoting reading achievement and countering the "Fourth-Grade Slump": The impact of Direct Instruction on reading achievement in fifth grade. *Journal of Education for Students Placed at Risk*, 15, 218-240.

Previous research has documented a substantial decline of standardized test scores of children from low-income backgrounds relative to more advantaged peers in later elementary grades, the so-called "fourth-grade slump." This paper examines changes in reading achievement from first to fifth grade for students in a large urban school system with a high proportion of students from economically deprived backgrounds. Students received first grade reading instruction from Direct Instruction (DI), Open Court, or a mixture of reading curricula. Results indicate that students in schools using DI had significantly greater gains in both reading vocabulary and comprehension than students in the two other settings and that their average levels of achievement in fifth grade were above the national norms, thus countering the fourth-grade slump.

16. Thomson, B. & Miller, L. (1991). Pilot study of the effectiveness of a Direct Instruction model as a supplement to a literature-based delivery model: Traditional teaching to a whole language: A focus on instructional routines. *Florida Educational Research Council Research Bulletin*, 23(2).

This study compared a group of first grade students who received reading instruction with the whole language program, Houghton-Mifflin Integrated Reading, with students who received instruction with the Direct Instruction program, Reading Mastery Fast Cycle, in addition to the Houghton-Mifflin program. Word recognition, reading fluency, and first-grade readiness were measured. Results indicate that students in the Direct Instruction group achieved higher growth in reading skills than students in the Houghton-Mifflin group.

B. Mathematics

1. Brent, G. & Diobilda, N. (1993). Effects of curriculum alignment versus Direct Instruction of urban children. *Journal of Educational Research*, 86(6), 333-338.

This study compared a school that implemented a Direct Instruction program and a school that implemented a traditional program as part of project Follow Through. Program effects and student mobility effects on student achievement in math, language arts, and reading were measured. Results indicate that the Direct Instruction program

produced significantly higher scores in mathematics on the Metropolitan Achievement Test (MAT) and scores similar to those produced by the traditional program on the Comprehensive Test of Basic Skills (CTBS). Additionally, stable students demonstrated significantly higher scores than mobile students on the CTBS.

2. Ligas, M. (2002). Evaluation of Broward County Alliance of Quality Schools project. *Journal of Education for Students Placed at Risk*, 7(2), 117-139.

The Alliance of Quality Schools is an academic and behavioral intervention model that was implemented in the Broward County School District. This article examines the effects of the model on academic achievement for children in elementary and middle school across five years of implementation. The model emphasizes Direct Instruction as the core of the academic program, utilizing Reading Mastery, Corrective Reading, and Language for Learning. Additionally, other supplemental programs were adopted, including Junior Great Books, Computer Curriculum Corporation computer-assisted reading instruction program, Accelerated Reader, and a systematic writing program. Results indicate the greatest increases in reading achievement occurred in the fourth grade, while the greatest gains in mathematics achievement were demonstrated in the fifth grade. Other results are variable at each grade level. (78% African American)

3. Stockard, J. (2010). Improving elementary level mathematics achievement in a large urban district: The effects of Direct Instruction in the Baltimore City public school system. *Journal of Direct Instruction*, 10, 1-16.

This paper examines changes in the average mathematics achievement of students in the Baltimore City Public School System (BCPSS) from 1998 to 2003, comparing students in schools that implemented Direct Instruction with students in other schools. First grade students who received Direct Instruction had significantly higher levels of achievement on the Comprehensive Test of Basic Skills (CTBS) subtests of mathematics computations and mathematics concepts and applications. Differences were greater when measures of schools' socio-demographic context were controlled and as Direct Instruction became fully implemented and incorporated within the schools. Among students who began first grade in the BCPSS and remained in the same schools five years later as fifth graders, those who had received Direct Instruction as first graders had significantly higher scores on the measure of mathematics concepts and applications than students in the other schools.

C. Other Subjects

1. Gersten, R., Becker, W., Heiry, T., & White, W. (1984). Entry IQ and yearly academic growth of children in Direct Instruction programs: A longitudinal study of low SES children. *Educational Evaluation and Policy Analysis*, 6(2), 109-121.

This article retrospectively examined data collected during Project Follow Through to explore whether there were differences in achievement gains between low-income students entering school with high IQs and students entering with lower IQs. All students in this evaluation received the Direct Instruction educational model. Students were administered IQ tests upon entry into school, and achievement was measured yearly. Results indicate that, while there were a few exceptions, overall, the academic growth of students with lower IQs was not significantly different than the gains made by students with high IQs. The exceptions included third grade reading and students whose IQs were below 71, where significant differences between IQ groups were found.

II. Middle and High School

A. Reading

1. Becker, W. & Gersten, R. (1982). A follow-up of Follow through: The later effects of the Direct Instruction model on children in fifth and sixth grades. *American Educational Research Journal*, 1(19), 75-92.

This study examined the reading, math, and spelling achievement of low-income fifth and sixth grade students who had completed all three years (1st- 3rd grade) of the Direct Instruction Follow Through program. Achievement scores of the fifth and sixth grade Follow Through students were compared to students in local comparison groups. Results indicated that in most domains assessed, Direct Instruction graduates from low-income households performed significantly better than comparison students.

2. Benner, G., Kinder, D., Beaudoin, K., & Stein, M. (2005). The effects of the Corrective Reading Decoding program on the basic reading skills and social adjustment of students with high-incidence disabilities. *Journal of Direct Instruction*, 5(1), 67-80.

This study examined the effects of the Corrective Reading Decoding program on the basic reading skills and social adjustment of elementary and middle school students with high-incidence disabilities. Results indicate that students in the Corrective Reading

program demonstrated significantly higher scores than comparison students in the areas of basic reading skills and oral reading fluency.

3. Drakeford, W. (2002). The impact of an intensive program to increase the literacy skills of youth confined to juvenile corrections. *Journal of Correctional Education*, 53(4), 139-144.

This study examined the effect of implementing Corrective Reading with six African American male adolescents in a juvenile corrections facility who were reading well below grade level. Oral reading fluency measures, grade placement level tests, and questionnaires that addressed student attitudes toward reading were administered as pre and posttests. For all students, oral reading fluency rate increased following intervention and grade placement levels increased from half a grade to a full grade. Additionally, a positive change in student attitudes toward reading was reported.

4. Grossen, B. (2004). Success of a Direct Instruction model at a secondary level school with high-risk students. *Reading & Writing Quarterly*, 20, 161-178.

This study examined the effects of implementing a Direct Instruction model in a low-performing, ethnically diverse middle school. The DI programs, Corrective Reading, Reasoning and Writing, Understanding U.S. History, and Expressive Writing, were used throughout the school. Results were compared to other low-performing California schools; the DI model students demonstrated the highest gains among all low-achieving middle schools in the state.(27% African American)

5. Houchins, D., Jolivette, K., Krezmien, M., & Baltodano, H. (2008). A multi-state study examining the impact of explicit reading instruction with incarcerated students. *The Journal of Correctional Education*, 5(1), 65-85.

This study compared two groups of students receiving an intervention that provided explicit reading instruction to adolescents in three juvenile correction facilities. One group was comprised of a low teacher-student ratio (1:4), while the other was comprised of a higher teacher-student ratio (1:12). Early literacy skills, word identification, and reading comprehension were measured. Results indicate that intensive, explicit instruction can increase the reading ability of incarcerated youth in a relatively short amount of time. Additionally, results provide support for the superiority of lower teacher-student ratios in increasing reading ability when compared to higher teacher-student ratios.(64% African American)

6. Malmgren, K. & Leone, P. (2000). Effects of a short-term auxiliary reading program on the reading skills of incarcerated youth. *Education and Treatment of Children*, 23(3), 239-247.

This study examined the effectiveness of an intensive six-week summer program that used Corrective Reading with incarcerated adolescents who were reading well below grade level. All participants were African American, and many were identified as having a disability. Statistically significant gains from pretest to posttest were demonstrated on measures of reading rate, accuracy, and combined rate and accuracy.

B. Other Subjects

1. Becker, W. & Gersten, R. (1982). A follow-up of Follow through: The later effects of the Direct Instruction model on children in fifth and sixth grades. *American Educational Research Journal*, 1(19), 75-92.

This study examined the reading, math, and spelling achievement of low-income fifth and sixth grade students who had completed all three years (1st- 3rd grade) of the Direct Instruction Follow Through program. Achievement scores of the fifth and sixth grade Follow Through students were compared to students in local comparison groups. Results indicated that in most domains assessed, Direct Instruction graduates from low-income households performed significantly better than comparison students.

2. Flores, M. & Kaylor, M. (2007). The effects of a Direct Instruction program on the fraction performance of middle school students at-risk for failure in mathematics. *Journal of Instructional Psychology*, 34(2), 84-94.

This study examined the effects of a Direct Instruction mathematics program, Corrective Mathematics, Basic Fractions on middle school students identified as at-risk for failure in mathematics. Concepts and skills related to fractions were measured pre- and post-intervention. Results indicate that students demonstrated significant increase in scores over the 7-week study. (20% African American)

3. Martella, R. & Waldron-Soler, K. (2005). Language for Writing program evaluation. *Journal of Direct Instructio*, 5(1), 81-96.

This article describes a program evaluation of the Direct Instruction program, Language for Writing, which was implemented in a total of 10 second through fifth grade classrooms across the United States. Student gains in writing achievement were measured pre and post-implementation. Results indicate that students made statistically and educationally significant gains in writing performance; ELL students and students in special education classrooms also obtained significant improvements in writing. Additionally, social validity questionnaires indicated that teachers were satisfied with using the program.

