



Center for Research in Educational Policy

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# STATISTICAL ANALYSES OF 2008-2009 GAINS IN ACHIEVEMENT ON THE IOWA TEST OF BASIC SKILLS, CORE/SURVEY BATTERY FOR STUDENTS SERVED BY BRAIN HURRICANE





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## EXECUTIVE SUMMARY

As part of an organizational self-study, Brain Hurricane, LLC, contracted with the Center for Research in Educational Policy (CREP), University of Memphis, for an independent analysis of potential student achievement gains enabled by the supplementary educational services it provides. To this end, Brain Hurricane provided CREP personnel with its complete 2008-2009 database of student achievement scores that were obtained on pre- and posttest administrations of age-appropriate assessments taken from the *Iowa Test of Basic Skills* (ITBS).

When taken as a single group, for all students served by Brain Hurricane, statistically significant differences were observed between pretest and posttest standard score means obtained for all ITBS subtests at all grade levels: Highly significant differences (at  $p < .001$ ) for Grade 1 through Grade 7, and at more traditional levels of statistical significance for Grade Eight. Were one to collapse across grade levels and combine Brain Hurricane students into two large groups based on the level of the test administered—a lower school group (Kindergarten through Grade Two) and an upper school group (Grades Three through Eight)-- the effect size associated with standard scores gains made by the 1,196 students in the lower school group would average out at  $d = 0.71$  in Mathematics,  $d = .67$  in Word Analysis, and  $d = .76$  in Reading Comprehension (with  $n = 972$ , using Grades One and Two only), while the standard scores gains made by the 1,233 students in the upper school group would average out at roughly  $d = 0.76$  in Mathematics and  $d = 0.45$  in Reading. Expressing these gains in terms of Normal Curve Equivalent (N.C.E.s) reveals differences of between 4 and 5 N.C.E.s in the each three domains tested at the lower school level. While N.C.E. gains in reading tended to be marginal (i.e., 1-2 N.C.E.s) among upper school grades, gains in mathematics proved to be substantial, however, averaging between six and seven N.C.E.s.

## **Statistical Analyses of 2008-2009 Gains in Achievement on the Iowa Test of Basic Skills, Core/Survey Battery for Students Served by Brain Hurricane**

### **INTRODUCTION**

As part of an organizational self-study, Brain Hurricane, LLC, contracted with the Center for Research in Educational Policy (CREP), University of Memphis, for an independent analysis of potential student achievement gains enabled by the supplementary educational services it provides. To this end, Brain Hurricane provided CREP personnel with its complete 2008-2009 database of student achievement scores that were obtained on pre- and posttest administrations of age-appropriate assessments taken from the *Iowa Test of Basic Skills* (ITBS).

In the early elementary grades—Kindergarten, Grade One, and Grade Two—students served by Brain Hurricane took tests drawn from the *ITBS Complete/Core Battery* at Levels 5, 6, and 7, respectively. Both prior to and immediately after the tutoring interval, Kindergarten/ITBS Level 5 students were administered the same form of either a 30-item Word Analysis test, a 29-item Mathematics test, or, as appropriate, both. Similarly, Grade One/ITBS Level Six students were administered identical forms of a 35-item Word Analysis test, a 35-item Mathematics test, and/or a 19-item Reading Comprehension test, while Grade Two/ITBS Level 7 students were administered identical forms of a 35-item Word Analysis test, a 34-item Reading test, and/or a 29-item test in Mathematics Concepts.

In Grades Three through Eight, Brain Hurricane students were pre- and post-assessed in reading and mathematics on subtests taken from the *ITBS Survey Battery*. At ITBS Level 9, students who were served in Grades Three and Four took identical versions of a 27-item reading subtest and/or 31-item mathematics subtest. Similarly, at ITBS Level 11, students who were served in Grades Five and Six took identical versions of a 32-item reading subtest and/or 37-item mathematics subtest. At ITBS Level 12, Seventh and Eighth Grade students served by Brain Hurricane were administered identical versions a 34-item test in Reading and/or a 40-item test in Mathematics.

Derived from the two different *ITBS* batteries, the two datasets were imported as “lower school” (K through Grade Two) and “upper school” (Grades Three through Eight) data files into the Statistical Package for the Social Sciences (SPSS). Within these files, the “raw” achievement scores obtained by each student on the relevant pre- and posttests were provided, along with the norm-referenced transformations of these “raw” scores as Scale or Standard Scores (S.S.s), Grade Equivalent Scores (G.E.s), and Normal Curve Equivalent

Scores (N.C.E.s). In addition to the achievement data by test/grade level, also included within the files was information pertinent to the state, district, and school within which Brain Hurricane students were served. Incorporating several of these “raw” score transformations, the tables below present analyses of student achievement data both within grades and within a number of important subgroups by grades. Organized into several series, the tables present achievement results for all Brain Hurricane students by:

- a) grade/test level (Table 1);
- b) grade level within the states of California, Illinois, and Indiana (Tables 2 through 4);
- c) grade level compared across the aforementioned states (Tables 5 through 13);
- d) grade level for all districts and schools serving ten or more Brain Hurricane students (Tables 14 through 20);
- e) grade level for districts of all sizes served by Brain Hurricane (Tables 21 through 29);
- f) grade level within the Chicago Public Schools (Table 30);
- g) grade level and school for schools of all sizes served by Brain Hurricane within the Chicago Public Schools (Tables 31 through 38).

## Data Presentation and Analysis

### Standard Scores: Descriptive and Inferential Statistics

By specific subgroups of Brain Hurricane students, reported in each of the tables outlined above are the means (*Ms*) and standard deviations (*SDs*) derived from the standard scores obtained on the pre- and posttest administrations of the relevant *ITBS* subtests. Along with the computed difference between post-and pretest means (*M* difference), an effect size (*d*)<sup>1</sup> was also computed to assess whether the observed mean difference was substantively meaningful.

An indicator of the impact of treatment, the “effect size” is a descriptive statistic that indicates the magnitude of the difference (in units of standard deviations) between two measures. A positive effect size would indicate a higher (i.e., better) Brain Hurricane mean, while a negative effect size would indicate a higher (i.e., better) control group mean. According to commonly accepted benchmarks (Cohen, 1988), positive or negative effect sizes of 0.20 are thought *small*, those are about plus or minus 0.50 are regarded as *moderate*, and those that are equal to or surpass 0.80 are considered *large*. More recently, statisticians have argued that an effect size should be interpreted in light of what is typically observed in the

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<sup>1</sup> Cohen’s *d* was computed as the mean difference (Brain Hurricane-control) divided by the pooled standard deviation.



literature in similar studies. Using guidelines proposed by Vernez and Zimmer (2007), effect sizes of 0.04 or less were classified as very small, between 0.05 and 0.10 were classified as small, between 0.11 and 0.24 were classified as moderate, and 0.25 and greater classified as large. This is also in keeping with guidelines from the What Works Clearinghouse, part of the research arm of the U.S. Department of Education, which considers an effect size of 0.25 as “substantively important” (U.S. Department of Education (2008)). However, given that SES tutoring is fairly limited in total hours per year, lower effect sizes might be expected.

In those instances where the number of student scores under consideration is acceptable (that is, greater than or equal to 10 pairs of scores), the results of statistically testing the difference between pre- and posttest means appears in a column marked *t*. Referred to as a “dependent” or “correlated” *t*-test because the two measures involved were made on the same student, this test indicates *how likely* it is that *systematic* rather than purely random difference exists between the measures on average. Where a *t*-value is “statistically significant,” it is accompanied by one or asterisks, the number of asterisks denoting how likely it is that the observed difference is something other than chance (that is, due to the systematic influence of treatment).

### **Grade and Normal Curve Equivalent Scores Linked to Standard Scores**

In addition to statistics pertinent to standard scores, each table also expresses Brain Hurricane students’ pre- and posttest scores in terms of two metrics that benchmark such scores against the achievement level expected for that domain by grade/time of year--Grade Equivalent (G.E.) scores—and against a rank ordering of student achievement scores for that domain for a particular grade and time of year—Normal Curve Equivalent (N.C.E.) scores.

Favored by practitioners, the Grade Equivalent metric expresses student outcomes in terms of the average performance level expected in a given subject by grade level and month. Using this metric, for example, “average” first grade students should be performing at levels represented by K.9, 1.0, or 1.1 (i.e., the 9<sup>th</sup> month of Kindergarten through the first month of first grade) when tested in early to late fall, while “average” first grade students should be performing at levels represented by 1.7, 1.8, or 1.9 (i.e., the 7<sup>th</sup> month of first grade through the first month of first grade) when tested in early to late spring. When students’ scores suggest pre- to posttest score differences of between 6 to 8 months, the gains observed are what one would typically expect given the additional months of classroom instruction and typical rates of student learning. However, should the difference in students’ fall to spring G.E. scores be something *other* than the expected number of months, that difference may be *positively interpreted* if it is *greater than* that the typical gain expected and *negatively*

*interpreted* if it is *less than* the typical gain expected. Because Grade Equivalent scores are less amenable to direct mathematical manipulation than other kinds of norm-referenced scores, CREP researchers employed *ITBS* conversion tables to link groups of students' pre- and posttest mean standard scores to comparable pre- and posttest Grade Equivalent scores.

To complement the information previously described, also provided are the norm-referenced transformation of BH students' standard scores as median Normal Curve Equivalents (N.C.E.s). A metric preferred by policymakers, Normal Curve Equivalents are both readily interpretable and, as "equal interval" scores, amenable to addition and subtraction. As with Grade Equivalent Scores, little or no difference in fall to spring Normal Curve Equivalent scores implies little or no change in achievement relative to the change in achievement of other students. While this sort of score difference does suggest some growth, the growth that it suggests is of a type that is simply being *maintained*: the student is not moving significantly up or down in the rank ordering of students by achievement, but largely remaining at the same place. In contrast to this pattern, a robust *positive difference* in pre- to posttest N.C.E.s implies an *upward movement* in a student's achievement rank order relative to that of other students and an *acceleration* of growth, while a robust *negative difference* implies a *downward movement* in a student's achievement rank order relative to that of other students and a *deceleration* of growth. Upon observing a general tendency in the present data towards extreme (usually positive) skewness, CREP researchers decided upon reporting *median* Normal Curve Equivalents opposed to *mean* Normal Curve Equivalents, as the former measure of central tendency is, under these circumstances, a better indicator of typical student performance. The median is the point at which half of the scores fall above, and half of the scores fall below, as opposed to the mean, which is the average score. In interpreting N.C.E. scores for Brain Hurricane participants, a score of 50 would equal the average for the norm group. Therefore, a score below 50 would be below, and a score above 50 would be above the average of the norm group.

## **Results: All Brain Hurricane Students by Grade/ITBS Test Level**

### **Pretest to Posttest Differences Expressed in ITBS Standard Score Units**

When taken as a single group, for all students served by Brain Hurricane, statistically significant differences were observed between pretest and posttest standard score means obtained for all ITBS subtests at all grade levels: Highly significant differences (at  $p < .001$ ) for Grade 1 through Grade 7, and at more traditional levels of statistical significance for Grade Eight (see Table 1). Effect sizes for all grades and subject areas were large, with the exception of Grade 3 Reading, which had a moderate effect size of 0.24. The effect sizes for

Kindergarten Math ( $d=0.76$ ) and Grade One Reading ( $d=0.79$ ) were particularly notable. Were one to collapse across grade levels and combine Brain Hurricane students into two large groups—a lower school group (Grades K-2) and an upper school group (Grades 3-8)—the effect size associated with standard scores gains made by the 1,196 students in the lower school group would average out at  $d = 0.71$  in Mathematics,  $d = .67$  in Word Analysis, and  $d = .76$  in Reading Comprehension (with  $n = 972$ , using Grades One and Two only), while the standard scores gains made by the 1,233 students in the upper school group would average out at roughly  $d = 0.76$  in Mathematics and  $d = 0.45$  in Reading.

### **Pretest to Posttest Differences Expressed in Normal Curve Equivalent Units**

Although comparison of students' standard scores suggests consistent and meaningful gains for all Brain Hurricane students, such gains did not always equate to a full six to eight months of instruction in a norm-referenced sense, as reflected in students' Grade Equivalent and median Normal Curve Equivalent scores. As shown in Figures 1 through 3, the roughly 1,200 students served by Brain Hurricane in Kindergarten through Grade Two collectively gained between 5 and 6 N.C.E.s in median performance on ITBS Word Analysis (pretest = 41, posttest = 46), ITBS Mathematics (pretest = 35, posttest = 39) and ITBS Reading Comprehension (pretest = 38, posttest = 44). At the same time, it is evident that such gains in median scores are not uniform by grade level across the three achievement domains. In the lower elementary grades, Grade Two Brain Hurricane students achieved a pretest to posttest median gain of fully 14 N.C.E.s in Mathematics, Word Analysis and Reading Comprehension. As contrasted with this level of performance, however, Brain Hurricane students in Kindergarten and Grade One appear to be largely *maintaining* their pretest level of achievement, with the marked gains observed for Grade Two offsetting marginal N.C.E. gains in the median score for Grade One reading (pretest = 43, posttest = 44) and Kindergarten Word Analysis (pretest = 49, posttest = 52) and marginal N.C.E. declines in the median score for Grade One Word Analysis (pretest = 41, posttest = 40), Kindergarten Mathematics (pretest = 38, posttest 35), and Grade One Mathematics (pretest = 33, posttest = 30). For the lower grades, none of the pretest median N.C.E. scores was above the average of 50, while only one (Word Analysis for Kindergarten (52.0)) exceeded the average of 50 at the posttest.

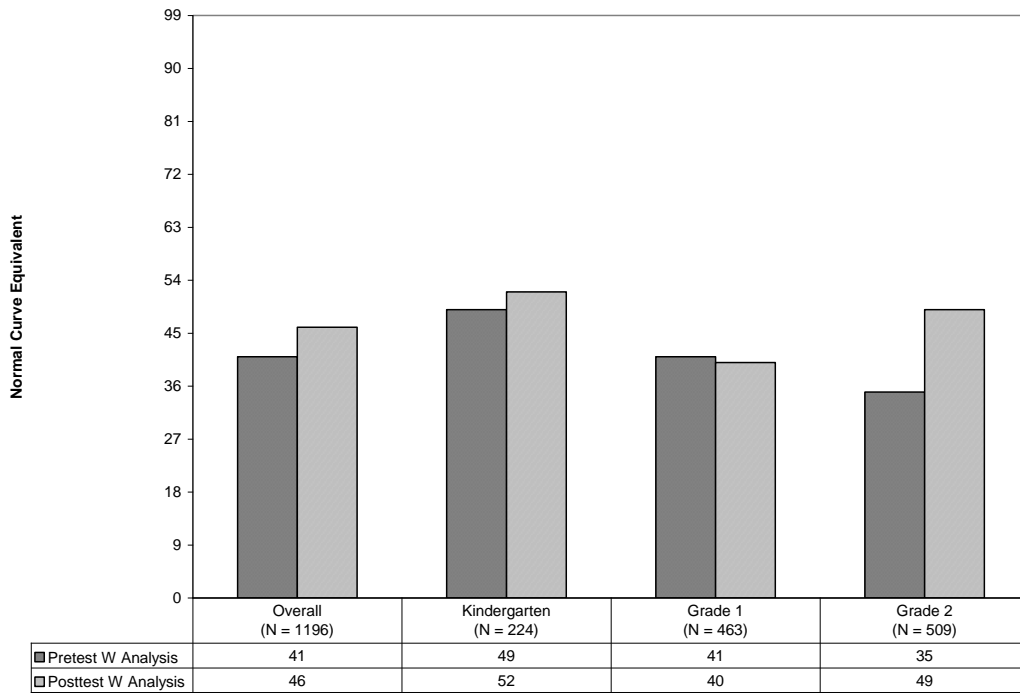


Figure 1. Pretest and Posttest Median Normal Curve Equivalent Scores in Word Analysis: Lower School Grades.

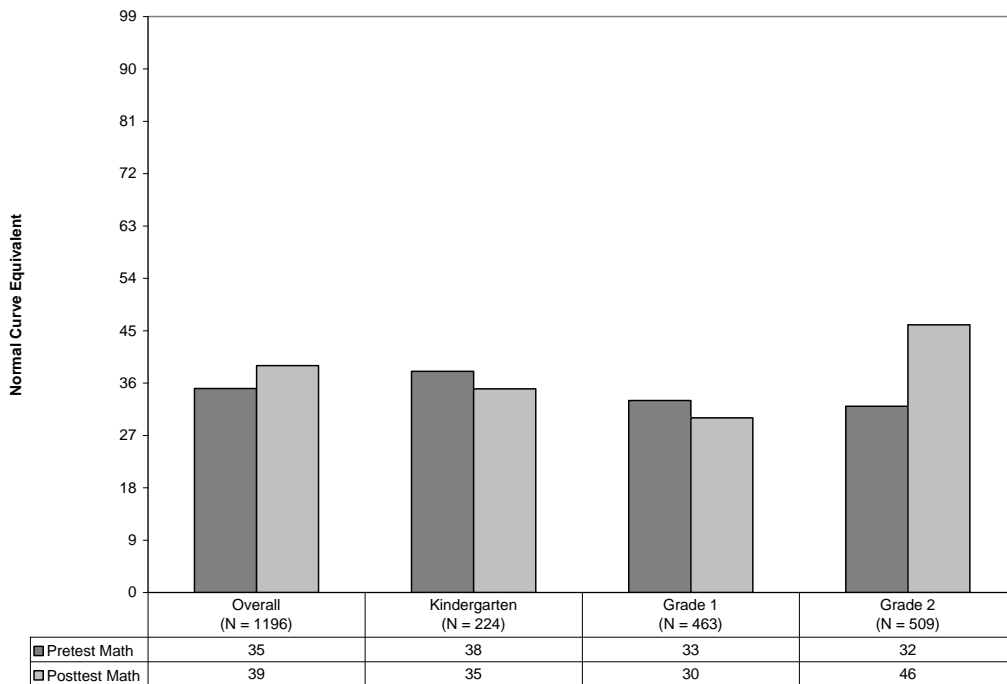


Figure 2. Pretest and Posttest Median Normal Curve Equivalent Scores in Mathematics: Lower School Grades.

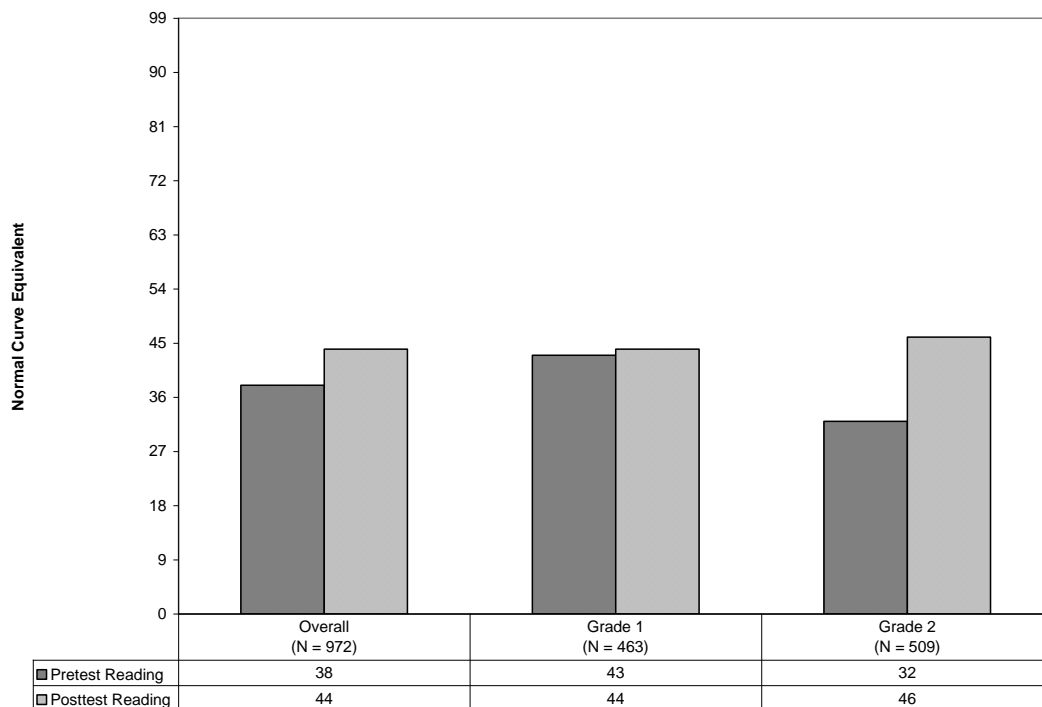


Figure 3. Pretest and Posttest Median Normal Curve Equivalent Scores in Reading: Lower School Grades.

Among the 1,231 students served by Brain Hurricane in Grade Three through Grade Eight, no declines in median pretest to posttest N.C.E.s were observed, and the gains that materialized tended towards somewhat greater consistency across the upper grade levels than across the lower grade levels. As shown in Figure Four, upper grade students generally appeared to be maintaining their pretest level of achievement in reading. While gains of between five and six N.C.E.s in the median score are observed for the 244 students served by Brain Hurricane in Grade Five (pretest = 34, posttest = 40) and the 70 students served by Brain Hurricane in Grade Seven (pretest = 27, posttest = 32), the reading achievement of most Brain Hurricane students in the upper grades usually increased one or two N.C. E. s in the median score from one test administration to the other.

As contrasted with these somewhat marginal gains in reading, the N.C.E mathematics gains in the median scores of the upper school students served by Brain Hurricane tended to be much more substantial. As shown in Figure Five, the grade-level gains in mathematics achievement averaged between six and seven N.C. E. s in the median score for all 1,231 upper school students taken together (pretest = 52, posttest = 58), with larger increases seen in Grades Three, Four, and Five, and somewhat smaller increases seen in Grades Six, Seven, and Eight. For the upper grades, only one of the pretest median N.C.E. scores (Grade

5 Math (51.0)) was above the average of 50, while the median of four of the grades in Math (Grade 3 through Grade 6) exceeded the average of 50 at the posttest.

In terms of grade level equivalent gains, as shown in Table 1, for Grade 5 through Grade 8, all gains were at least 0.6 or more, indicating at least 6 months of growth between the pre and post tests. In Grade 3 through Grade 8, the gains in Math were consistently an entire grade level (1.0) or more.

### **Results: Additional Breakouts of Brain Hurricane Students by Grade/ITBS Test Level**

As previously noted in the Introduction, the inclusion of student-level identifiers by state, district, and school facilitated analysis of other relevant ways to group and present student results. Although Brain Hurricane is headquartered in Chicago and provides supplemental educational services to a number of schools in the Chicago Public Schools, it also serves students in districts and schools across the state of Illinois as well in the states of California and Indiana.

In breaking out the previous results by grade/test levels into smaller units, the purpose of the attached supplementary tables is to present empirical results that will assist Brain Hurricane in its self study. In a fashion similar to Table 1, the appended series of tables that follow highlight student performance by grade/test level in those states where the supplementary educational services provided by Brain Hurricane are most concentrated, including in the Chicago Public Schools.

In those districts and schools where the number of paired student scores equals or exceeds 10, grade/test level tables that, like Table 1, present both descriptive and inferential statistics are provided. However, in those districts in which fewer than ten pairs of student scores were observed, only descriptive statistics are provided and no inferential testing of student results is conducted. Whether or not a result is considered “statistically significant” is to a great extent a function on the number of observations under consideration. For this reason, CREP avoids statistical testing of groups smaller than 10. However, because computation of the effect size is almost completely independent of the number of observations, effect size results have been retained as an indicator of the level of progress being made in districts where smaller numbers of Brain Hurricane students are being served.

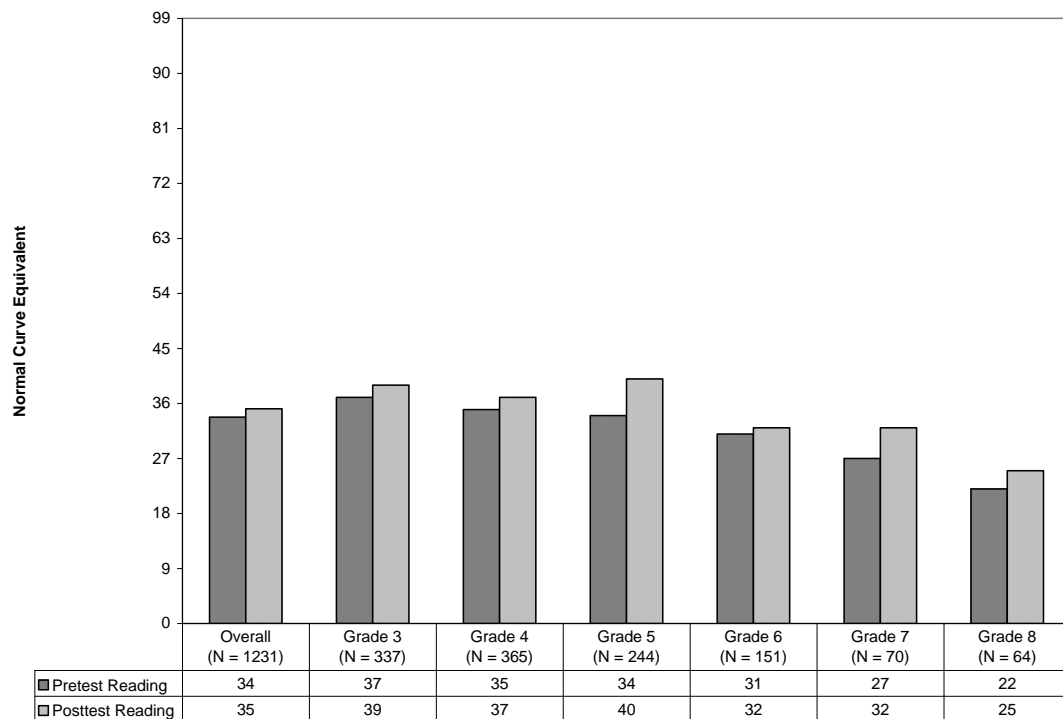


Figure 4. Pretest and Posttest Median Normal Curve Equivalent Scores in Reading: Upper School Grades.

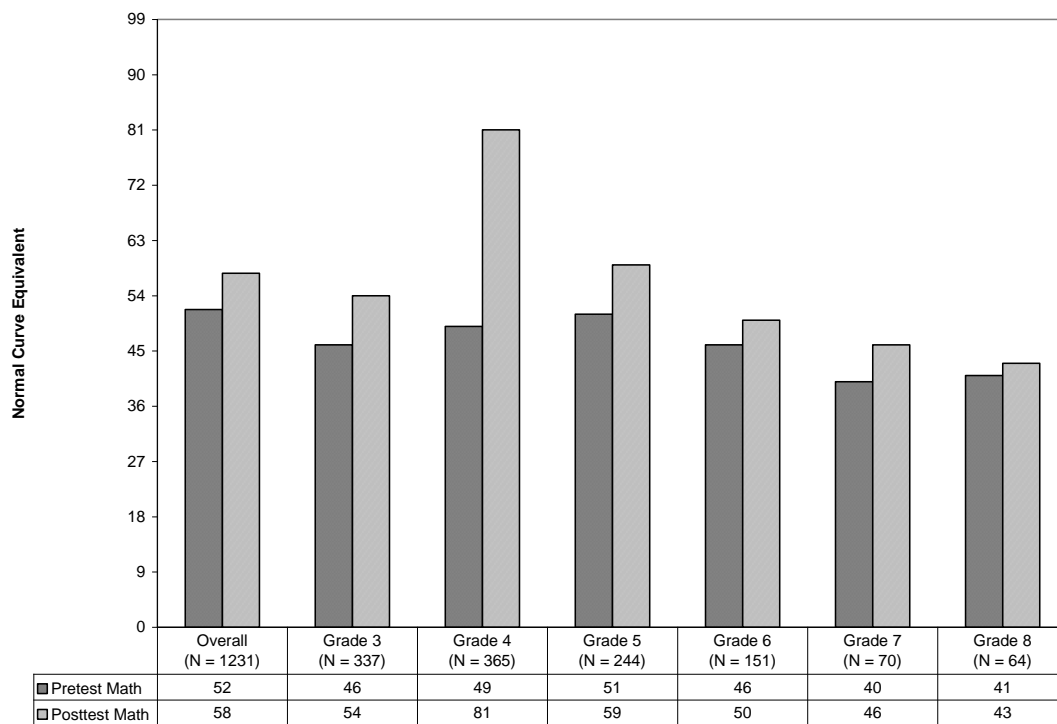


Figure 5. Pretest and Posttest Median Normal Curve Equivalent Scores in Mathematics: Upper School Grades.

## **Conclusions**

In the educational literature, discussions of the efficacy of Supplemental Educational Services (S.E.S) have pointed out how difficult it is to show gains in student performance given the small number of additional hours that students are provided with tutoring. In such discussions, many commentators regard as unrealistic the expectation that students should make a year or more of more of test score gains, given 30 or so hours of after-school instruction dispersed across as many weeks of the school year.

In light of these commentaries and the number of hours of service that Brain Hurricane students received during 2008-2009 (i.e. 31.2 hours in Kindergarten through Grade Two, and 32.7 hours in Grades Three through Eight), it may set the efficacy bar too high to interpret the posttest performance of Brain Hurricane students in terms of the “spring” or end-of-year ITBS norms, as opposed to ITBS-interpolated “midyear” norms. Even so, although spring ITBS norms were the ones referenced to determine N.C.E. gains in this report, Brain Hurricane students were still shown to have made consistently credible performance improvements in mathematics and to have maintained, if not to some extent, improved their performance in reading over and above levels expected under usual classroom arrangements.



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Table 1: Comparison of Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Students Served by Brain Hurricane, 2008-2009

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	t	p	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Kindergarten (N pairs = 224)												
W Analysis	120.1	12.7	131.0	21.5	10.9	0.61	7.47	***	K.2	K.9	49.0	52.0
Mathematics	115.6	9.9	124.4	12.9	8.8	0.76	8.70	***	P.9	K.3	38.0	35.0
Grade One (N pairs = 462)												
W Analysis	133.2	16.3	144.2	19.5	11.0	0.61	12.03	***	1.0	1.5	41.0	40.0
Reading	132.9	16.1	146.3	17.3	13.3	0.79	12.57	***	1.0	1.6	43.0	44.0
Mathematics	130.2	13.7	137.5	19.2	7.3	0.44	8.24	***	K.8	1.1	33.0	30.0
Grade Two (N pairs = 508)												
W Analysis	144.7	20.5	156.4	19.6	11.7	0.58	13.67	***	1.5	2.1	35.0	49.0
Reading	145.6	16.4	153.4	15.7	7.8	0.49	11.64	***	1.6	2.0	32.0	46.0
Mathematics	142.4	14.5	151.7	16.4	9.4	0.60	13.51	***	1.3	1.9	32.0	46.0
Grade Three (N pairs = 337)												
Reading	161.4	29.0	168.9	33.3	7.5	0.24	3.76	***	2.4	2.8	37.0	39.0
Mathematics	176.9	26.8	196.7	32.6	19.8	0.66	13.13	***	3.2	4.5	46.0	54.0
Grade Four (N pairs = 365)												
Reading	172.7	22.0	181.4	26.3	8.7	0.36	6.75	***	3.0	3.5	35.0	37.0
Mathematics	197.2	34.3	212.9	32.3	15.7	0.47	9.44	***	4.5	5.7	49.0	81.0
Grade Five (N pairs = 244)												
Reading	185.9	22.3	195.8	31.1	9.9	0.37	5.61	***	3.9	4.5	34.0	40.0
Mathematics	211.4	31.7	230.7	37.8	19.3	0.55	9.53	***	5.5	7.1	51.0	59.0
Grade Six (N pairs = 151)												
Reading	190.8	21.7	199.7	22.8	8.9	0.40	6.34	***	4.1	4.8	31.0	32.0
Mathematics	220.4	35.0	234.0	38.7	13.6	0.37	5.65	***	6.2	7.4	46.0	50.0
Grade Seven (N pairs = 70)												
Reading	196.4	19.0	207.7	22.4	11.3	0.54	6.10	***	4.5	5.3	27.0	32.0
Mathematics	222.2	40.0	238.8	42.1	16.6	0.40	4.34	***	6.4	7.7	40.0	46.0
Grade Eight (N pairs = 64)												
Reading	198.1	20.6	207.3	25.2	9.2	0.40	3.52	**	4.6	5.3	22.0	25.0
Mathematics	230.3	39.1	242.1	44.4	11.8	0.28	2.40	*	7.0	8.0	41.0	43.0

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

Table 2: Comparison of Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Students Served by Brain Hurricane in California Districts, 2008-2009

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	t	p	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Kindergarten (N pairs = 68)												
W Analysis	117.0	9.6	125.5	31.4	8.5	0.36	2.09	*	K.0	K.5	47.0	50.0
Mathematics	111.0	11.0	123.3	18.9	12.4	0.80	4.42	***	P.8	K.3	30.0	35.0
Grade One (N pairs = 100)												
W Analysis	127.2	19.7	15.1	146.4	19.2	1.09	9.41	***	K.6	1.6	36.0	45.0
Reading	133.6	17.7	17.4	145.1	11.6	0.66	5.71	***	1.0	1.5	45.5	42.0
Mathematics	124.2	26.0	16.0	131.8	7.6	0.35	2.56	**	K.3	K.9	28.0	24.0
Grade Two (N pairs = 109)												
W Analysis	139.6	23.3	160.8	18.4	21.2	1.00	9.59	***	1.3	2.4	31.0	52.0
Reading	143.3	15.6	153.9	13.4	10.6	0.73	8.52	***	1.4	2.0	32.0	46.0
Mathematics	139.7	16.9	149.0	21.1	9.3	0.49	5.59	***	1.2	1.7	27.0	42.0
Grade Three (N pairs = 74)												
Reading	160.5	32.1	171.2	33.6	10.8	0.33	2.35	*	2.3	2.9	37.0	40.0
Mathematics	180.1	27.5	206.7	31.4	26.6	0.90	8.34	***	3.4	5.3	47.5	72.0
Grade Four (N pairs = 92)												
Reading	164.8	24.8	179.9	21.2	15.1	0.65	4.58	***	2.6	3.4	29.0	33.5
Mathematics	185.9	34.3	208.6	33.1	22.7	0.67	6.18	***	3.8	5.4	37.0	58.0
Grade Five (N pairs = 41)												
Reading	184.8	15.5	206.1	24.7	21.3	1.02	5.39	***	3.8	5.2	34.0	42.0
Mathematics	215.0	28.3	245.7	36.2	30.8	0.94	5.65	***	5.9	8.4	57.0	71.0
Grade Six (N pairs = 30)												
Reading	192.8	18.7	204.2	23.5	11.4	0.53	3.63	**	4.3	5.0	31.0	35.0
Mathematics	226.6	35.3	239.5	36.5	12.9	0.35	1.96		6.7	7.8	53.0	50.0
Grade Seven (N pairs = 26)												
Reading	201.8	19.7	216.7	21.2	15.0	0.72	5.82	***	4.9	6.0	30.5	37.0
Mathematics	236.5	36.5	264.7	43.5	28.2	0.69	4.55	***	7.5	10.3	54.5	77.0
Grade Eight (N pairs = 20)												
Reading	202.0	20.7	220.7	25.3	18.7	0.79	-3.02	**	4.9	6.3	27.0	38.0
Mathematics	245.7	38.0	261.7	42.2	16.0	0.39	-1.32		8.4	10.0	47.5	62.0

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

Table 3: Comparison of Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Students Served by Brain Hurricane in Illinois Districts, 2008-2009

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	t	p	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Kindergarten (N pairs = 9)												
W Analysis	107.0	11.8	125.7	16.5	18.7	1.24	4.33	**	P.6	K.5	17.0	48.0
Mathematics	102.0	6.5	125.1	6.6	23.1	3.36	6.66	***	P.5	K.4	7.0	42.0
Grade One (N pairs = 149)												
W Analysis	131.0	18.5	16.3	138.3	7.2	0.41	4.99	***	K.9	1.2	38.0	36.0
Reading	131.9	16.3	15.9	145.0	13.1	0.81	6.95	***	K.9	1.5	43.0	40.0
Mathematics	128.6	14.8	12.1	133.1	4.5	0.33	3.64	***	K.7	K.9	29.0	25.0
Grade Two (N pairs = 203)												
W Analysis	141.4	19.0	151.5	20.7	10.2	0.51	7.52	***	1.3	2.0	32.0	38.0
Reading	142.3	17.9	151.1	17.2	8.8	0.50	6.65	***	1.4	1.9	31.0	42.0
Mathematics	139.4	14.5	149.7	16.4	10.3	0.66	8.05	***	1.2	1.8	28.0	43.0
Grade Three (N pairs = 158)												
Reading	158.5	27.0	168.3	27.2	9.8	0.36	4.84	***	2.3	2.8	37.0	36.0
Mathematics	167.1	21.4	185.2	31.2	18.2	0.68	7.77	***	2.7	3.7	38.0	44.0
Grade Four (N pairs = 147)												
Reading	173.4	18.4	180.3	20.4	6.9	0.36	5.79	***	3.0	3.4	38.0	37.0
Mathematics	192.3	33.1	211.0	32.2	18.7	0.57	7.75	***	4.2	5.5	49.0	67.0
Grade Five (N pairs = 112)												
Reading	184.0	17.8	193.1	21.3	9.1	0.46	5.82	***	3.7	4.3	34.0	36.0
Mathematics	202.6	31.2	220.4	38.1	17.8	0.51	5.86	***	4.9	6.2	44.0	50.0
Grade Six (N pairs = 94)												
Reading	189.3	22.8	197.9	23.8	8.5	0.36	4.62	***	4.0	4.6	28.0	29.0
Mathematics	214.7	32.4	227.8	38.2	13.1	0.37	4.84	***	5.9	6.8	44.0	45.0
Grade Seven (N pairs = 44)												
Reading	193.3	18.0	202.4	21.7	9.1	0.45	3.67	**	4.3	4.9	24.0	25.0
Mathematics	213.8	40.0	223.5	33.2	9.7	0.26	2.12	*	5.8	6.5	33.5	40.0
Grade Eight (N pairs = 42)												
Reading	195.1	20.1	199.9	22.6	4.8	0.22	-1.96		4.4	4.8	22.0	19.5
Mathematics	219.9	35.3	230.2	41.6	10.3	0.26	-2.11	*	6.2	7.0	37.0	38.0

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

Table 4: Comparison of Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Students Served by Brain Hurricane in Indiana Districts, 2008-2009

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	t	p	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Kindergarten (N pairs = 147)												
W Analysis	122.4	13.3	133.9	14.7	10.0	0.82	11.54	***	K.2	1.0	52.0	52.0
Mathematics	118.6	7.7	124.8	9.3	6.2	0.72	8.97	***	K.1	K.5	47.0	38.0
Grade One (N pairs = 213)												
W Analysis	137.7	19.4	15.5	147.2	9.6	0.54	7.20	***	1.2	1.6	48.0	40.0
Reading	133.5	17.9	15.6	147.7	14.1	0.84	8.69	***	1.0	1.7	48.0	47.0
Mathematics	134.2	16.6	12.1	143.1	8.9	0.61	9.13	***	1.0	1.4	41.0	37.0
Grade Two (N pairs = 196)												
W Analysis	151.1	18.6	159.2	17.7	8.1	0.45	7.62	***	1.9	2.3	40.0	49.0
Reading	150.3	13.9	155.7	14.9	5.4	0.37	6.61	***	1.8	2.1	38.0	46.0
Mathematics	147.0	11.4	155.5	12.2	8.4	0.71	10.74	***	1.6	2.1	34.0	46.0
Grade Three (N pairs = 105)												
Reading	166.4	29.4	168.0	40.8	1.7	0.05	0.36		2.7	2.8	39.0	39.0
Mathematics	189.6	27.9	206.8	29.8	17.2	0.60	7.31	***	4.1	5.3	58.0	72.0
Grade Four (N pairs = 126)												
Reading	177.7	22.4	183.9	34.5	6.2	0.21	2.51	*	3.3	3.7	41.0	39.5
Mathematics	211.2	31.0	218.2	31.3	6.9	0.22	2.60	**	5.5	6.1	77.0	81.0
Grade Five (N pairs = 88)												
Reading	188.7	29.1	194.4	41.8	5.7	0.16	1.44		4.0	4.3	36.0	42.0
Mathematics	220.9	31.0	236.6	34.5	15.7	0.47	5.35	***	6.3	7.6	57.0	62.0
Grade Six (N pairs = 24)												
Reading	194.2	20.7	201.1	16.9	6.9	0.36	2.62	*	4.3	4.8	34.0	32.0
Mathematics	234.4	39.8	250.4	38.9	16.0	0.40	2.52	*	7.4	8.8	58.0	71.0
Grade Eight (N pairs = 2)												
Reading	222.5	2.1	229.5	7.8	7.0	0.69	1.00		6.5	7.0	38.5	39.0
Mathematics	289.0	12.7	289.0	12.7	0.0	0.00	0.00		13+	13+	81.0	74.5

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

Table 5: Comparison of Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Kindergarten Students Served by Brain Hurricane, 2008-2009

ITBS Subtest	SS <i>M</i> Pre	SS <i>SD</i> Pre	SS <i>M</i> Post	SS <i>SD</i> Post	<i>M</i> Diff	E.S. ( <i>d</i> )	<i>t</i>	<i>p</i>	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
All Kindergarten ( <i>N</i> pairs = 224)												
W Analysis	120.1	12.7	131.0	21.5	10.9	0.61	7.47	***	K.2	K.9	49.0	52.0
Mathematics	115.6	9.9	124.4	12.9	8.8	0.76	8.70	***	P.9	K.3	38.0	35.0
California ( <i>N</i> pairs = 68)												
W Analysis	117.0	9.6	125.5	31.4	8.5	0.36	2.09	*	K.0	K.5	47.0	50.0
Mathematics	111.0	11.0	123.3	18.9	12.4	0.80	4.42	***	P.8	K.3	30.0	35.0
Illinois ( <i>N</i> pairs = 9)												
W Analysis	107.0	11.8	125.7	16.5	18.7	1.24	4.33	**	P.6	K.5	17.0	48.0
Mathematics	102.0	6.5	125.1	6.6	23.1	3.36	6.66	***	P.5	K.4	7.0	42.0
Indiana ( <i>N</i> pairs = 147)												
W Analysis	122.4	13.3	133.9	14.7	10.0	0.82	11.54	***	K.2	1.0	52.0	52.0
Mathematics	118.6	7.7	124.8	9.3	6.2	0.72	8.97	***	K.1	K.5	47.0	38.0

\*\*\**p* < .001, \*\**p* < .01, \**p* < .05

Table 6: Comparison of Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade One Students Served by Brain Hurricane, 2008-2009

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	t	p	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
All Grade One (N pairs = 462)												
W Analysis	133.2	16.3	144.2	19.5	11.0	0.61	12.03	***	1.0	1.5	41.0	40.0
Reading	132.9	16.1	146.3	17.3	13.3	0.79	12.57	***	1.0	1.6	43.0	44.0
Mathematics	130.2	13.7	137.5	19.2	7.3	0.44	8.24	***	K.8	1.1	33.0	30.0
California (N pairs = 100)												
W Analysis	127.2	19.7	15.1	146.4	19.2	1.09	9.41	***	K.6	1.6	36.0	45.0
Reading	133.6	17.7	17.4	145.1	11.6	0.66	5.71	***	1.0	1.5	45.5	42.0
Mathematics	124.2	26.0	16.0	131.8	7.6	0.35	2.56	**	K.3	K.9	28.0	24.0
Illinois (N pairs = 149)												
W Analysis	131.0	18.5	16.3	138.3	7.2	0.41	4.99	***	K.9	1.2	38.0	36.0
Reading	131.9	16.3	15.9	145.0	13.1	0.81	6.95	***	K.9	1.5	43.0	40.0
Mathematics	128.6	14.8	12.1	133.1	4.5	0.33	3.64	***	K.7	K.9	29.0	25.0
Indiana (N pairs = 213)												
W Analysis	137.7	19.4	15.5	147.2	9.6	0.54	7.20	***	1.2	1.6	48.0	40.0
Reading	133.5	17.9	15.6	147.7	14.1	0.84	8.69	***	1.0	1.7	48.0	47.0
Mathematics	134.2	16.6	12.1	143.1	8.9	0.61	9.13	***	1.0	1.4	41.0	37.0

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

Table 7: Comparison of Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade Two Students Served by Brain Hurricane, 2008-2009

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	t	p	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
All Grade Two (N pairs = 508)												
W Analysis	144.7	20.5	156.4	19.6	11.7	0.58	13.67	***	1.5	2.1	35.0	49.0
Reading	145.6	16.4	153.4	15.7	7.8	0.49	11.64	***	1.6	2.0	32.0	46.0
Mathematics	142.4	14.5	151.7	16.4	9.4	0.60	13.51	***	1.3	1.9	32.0	46.0
California (N pairs = 109)												
W Analysis	139.6	23.3	160.8	18.4	21.2	1.00	9.59	***	1.3	2.4	31.0	52.0
Reading	143.3	15.6	153.9	13.4	10.6	0.73	8.52	***	1.4	2.0	32.0	46.0
Mathematics	139.7	16.9	149.0	21.1	9.3	0.49	5.59	***	1.2	1.7	27.0	42.0
Illinois (N pairs = 203)												
W Analysis	141.4	19.0	151.5	20.7	10.2	0.51	7.52	***	1.3	2.0	32.0	38.0
Reading	142.3	17.9	151.1	17.2	8.8	0.50	6.65	***	1.4	1.9	31.0	42.0
Mathematics	139.4	14.5	149.7	16.4	10.3	0.66	8.05	***	1.2	1.8	28.0	43.0
Indiana (N pairs = 196)												
W Analysis	151.1	18.6	159.2	17.7	8.1	0.45	7.62	***	1.9	2.3	40.0	49.0
Reading	150.3	13.9	155.7	14.9	5.4	0.37	6.61	***	1.8	2.1	38.0	46.0
Mathematics	147.0	11.4	155.5	12.2	8.4	0.71	10.74	***	1.6	2.1	34.0	46.0

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$



Table 8: Comparison of Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade Three Students Served by Brain Hurricane, 2008-2009

ITBS Subtest	SS <i>M</i> Pre	SS <i>SD</i> Pre	SS <i>M</i> Post	SS <i>SD</i> Post	<i>M</i> Diff	E.S. ( <i>d</i> )	<i>t</i>	<i>p</i>	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
All Grade Three ( <i>N</i> pairs = 337)												
Reading	161.4	29.0	168.9	33.3	7.5	0.24	3.76	***	2.4	2.8	37.0	39.0
Mathematics	176.9	26.8	196.7	32.6	19.8	0.66	13.13	***	3.2	4.5	46.0	54.0
California ( <i>N</i> pairs = 74)												
Reading	160.5	32.1	171.2	33.6	10.8	0.33	2.35	*	2.3	2.9	37.0	40.0
Mathematics	180.1	27.5	206.7	31.4	26.6	0.90	8.34	***	3.4	5.3	47.5	72.0
Illinois ( <i>N</i> pairs = 158)												
Reading	158.5	27.0	168.3	27.2	9.8	0.36	4.84	***	2.3	2.8	37.0	36.0
Mathematics	167.1	21.4	185.2	31.2	18.2	0.68	7.77	***	2.7	3.7	38.0	44.0
Indiana ( <i>N</i> pairs = 105)												
Reading	166.4	29.4	168.0	40.8	1.7	0.05	0.36		2.7	2.8	39.0	39.0
Mathematics	189.6	27.9	206.8	29.8	17.2	0.60	7.31	***	4.1	5.3	58.0	72.0

\*\*\**p* < .001, \*\**p* < .01, \**p* < .05

Table 9: Comparison of Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade Four Students Served by Brain Hurricane, 2008-2009

ITBS Subtest	SS <i>M</i> Pre	SS <i>SD</i> Pre	SS <i>M</i> Post	SS <i>SD</i> Post	<i>M</i> Diff	E.S. ( <i>d</i> )	<i>t</i>	<i>p</i>	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
All Grade Four ( <i>N</i> pairs = 365)												
Reading	172.7	22.0	181.4	26.3	8.7	0.36	6.75	***	3.0	3.5	35.0	37.0
Mathematics	197.2	34.3	212.9	32.3	15.7	0.47	9.44	***	4.5	5.7	49.0	81.0
California ( <i>N</i> pairs = 92)												
Reading	164.8	24.8	179.9	21.2	15.1	0.65	4.58	***	2.6	3.4	29.0	33.5
Mathematics	185.9	34.3	208.6	33.1	22.7	0.67	6.18	***	3.8	5.4	37.0	58.0
Illinois ( <i>N</i> pairs = 147)												
Reading	173.4	18.4	180.3	20.4	6.9	0.36	5.79	***	3.0	3.4	38.0	37.0
Mathematics	192.3	33.1	211.0	32.2	18.7	0.57	7.75	***	4.2	5.5	49.0	67.0
Indiana ( <i>N</i> pairs = 126)												
Reading	177.7	22.4	183.9	34.5	6.2	0.21	2.51	*	3.3	3.7	41.0	39.5
Mathematics	211.2	31.0	218.2	31.3	6.9	0.22	2.60	**	5.5	6.1	77.0	81.0

\*\*\**p* < .001, \*\**p* < .01, \**p* < .05

Table 10: Comparison of Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade Five Students Served by Brain Hurricane, 2008-2009

ITBS Subtest	SS <i>M</i> Pre	SS <i>SD</i> Pre	SS <i>M</i> Post	SS <i>SD</i> Post	<i>M</i> Diff	E.S. ( <i>d</i> )	<i>t</i>	<i>p</i>	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
All Grade Five ( <i>N</i> pairs = 243)												
Reading	185.9	22.3	195.8	31.1	9.9	0.37	5.61	***	3.9	4.5	34.0	40.0
Mathematics	211.4	31.7	230.7	37.8	19.3	0.55	9.53	***	5.5	7.1	51.0	59.0
California ( <i>N</i> pairs = 41)												
Reading	184.8	15.5	206.1	24.7	21.3	1.02	5.39	***	3.8	5.2	34.0	42.0
Mathematics	215.0	28.3	245.7	36.2	30.8	0.94	5.65	***	5.9	8.4	57.0	71.0
Illinois ( <i>N</i> pairs = 112)												
Reading	184.0	17.8	193.1	21.3	9.1	0.46	5.82	***	3.7	4.3	34.0	36.0
Mathematics	202.6	31.2	220.4	38.1	17.8	0.51	5.86	***	4.9	6.2	44.0	50.0
Indiana ( <i>N</i> pairs = 88)												
Reading	188.7	29.1	194.4	41.8	5.7	0.16	1.44		4.0	4.3	36.0	42.0
Mathematics	220.9	31.0	236.6	34.5	15.7	0.47	5.35	***	6.3	7.6	57.0	62.0

\*\*\**p* < .001, \*\**p* < .01, \**p* < .05

Table 11: Comparison of Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade Six Students Served by Brain Hurricane, 2008-2009

ITBS Subtest	SS <i>M</i> Pre	SS <i>SD</i> Pre	SS <i>M</i> Post	SS <i>SD</i> Post	<i>M</i> Diff	E.S. ( <i>d</i> )	<i>t</i>	<i>p</i>	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
All Grade Six ( <i>N</i> pairs = 150)												
Reading	190.8	21.7	199.7	22.8	8.9	0.40	6.34	***	4.1	4.8	31.0	32.0
Mathematics	220.4	35.0	234.0	38.7	13.6	0.37	5.65	***	6.2	7.4	46.0	50.0
California ( <i>N</i> pairs = 30)												
Reading	192.8	18.7	204.2	23.5	11.4	0.53	3.63	**	4.3	5.0	31.0	35.0
Mathematics	226.6	35.3	239.5	36.5	12.9	0.35	1.96		6.7	7.8	53.0	50.0
Illinois ( <i>N</i> pairs = 94)												
Reading	189.3	22.8	197.9	23.8	8.5	0.36	4.62	***	4.0	4.6	28.0	29.0
Mathematics	214.7	32.4	227.8	38.2	13.1	0.37	4.84	***	5.9	6.8	44.0	45.0
Indiana ( <i>N</i> pairs = 24)												
Reading	194.2	20.7	201.1	16.9	6.9	0.36	2.62	*	4.3	4.8	34.0	32.0
Mathematics	234.4	39.8	250.4	38.9	16.0	0.40	2.52	*	7.4	8.8	58.0	71.0

\*\*\**p* < .001, \*\**p* < .01, \**p* < .05

Table 12: Comparison of Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade Seven Students Served by Brain Hurricane, 2008-2009

ITBS Subtest	SS <i>M</i> Pre	SS <i>SD</i> Pre	SS <i>M</i> Post	SS <i>SD</i> Post	<i>M</i> Diff	E.S. ( <i>d</i> )	<i>t</i>	<i>p</i>	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
All Grade Seven ( <i>N</i> pairs = 70)												
Reading	196.4	19.0	207.7	22.4	11.3	0.54	6.10	***	4.5	5.3	27.0	32.0
Mathematics	222.2	40.0	238.8	42.1	16.6	0.40	4.34	***	6.4	7.7	40.0	46.0
California ( <i>N</i> pairs = 26)												
Reading	201.8	19.7	216.7	21.2	15.0	0.72	5.82	***	4.9	6.0	30.5	37.0
Mathematics	236.5	36.5	264.7	43.5	28.2	0.69	4.55	***	7.5	10.3	54.5	77.0
Illinois ( <i>N</i> pairs = 44)												
Reading	193.3	18.0	202.4	21.7	9.1	0.45	3.67	**	4.3	4.9	24.0	25.0
Mathematics	213.8	40.0	223.5	33.2	9.7	0.26	2.12	*	5.8	6.5	33.5	40.0

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

Table 13: Comparison of Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade Eight Students Served by Brain Hurricane, 2008-2009

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	t	p	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
All Grade Eight (N pairs = 64)												
Reading	198.1	20.6	207.3	25.2	9.2	0.40	3.52	**	4.6	5.3	22.0	25.0
Mathematics	230.3	39.1	242.1	44.4	11.8	0.28	2.40	*	7.0	8.0	41.0	43.0
California (N pairs = 20)												
Reading	202.0	20.7	220.7	25.3	18.7	0.79	-3.02	**	4.9	6.3	27.0	38.0
Mathematics	245.7	38.0	261.7	42.2	16.0	0.39	-1.32		8.4	10.0	47.5	62.0
Illinois (N pairs = 42)												
Reading	195.1	20.1	199.9	22.6	4.8	0.22	-1.96		4.4	4.8	22.0	19.5
Mathematics	219.9	35.3	230.2	41.6	10.3	0.26	-2.11	*	6.2	7.0	37.0	38.0
Indiana (N pairs = 2)												
Reading	222.5	2.1	229.5	7.8	7.0	0.69	1.00		6.5	7.0	38.5	39.0
Mathematics	289.0	12.7	289.0	12.7	0.0	0.00	0.00		13+	13+	81.0	74.5

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

Table 14: Comparison of Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Kindergarten Students Served by Brain Hurricane in Large Districts and Schools, 2008-2009 (N >= 10)

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	t	p	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Kindergarten, District : Elkhart (N = 40)												
W Analysis	128.9	12.5	134.7	16.3	5.9	0.40	2.8	***	K.7	1.1	64.0	52.0
Mathematics	119.5	7.1	121.2	9.4	1.8	0.21	2.2	*	K.0	K.1	45.0	32.0
Kindergarten, District: Elkhart; School: Monger (N = 11)												
W Analysis	126.2	16.3	134.5	15.5	8.4	0.51	3.9	**	K.5	1.1	55.0	55.0
Mathematics	121.5	5.4	124.9	7.8	3.4	0.48	2.5	*	K.2	K.4	47.0	32.0
Kindergarten, District: Elkhart; School: Roosevelt (N = 19)												
W Analysis	131.4	10.3	139.4	16.2	7.9	0.57	2.1		K.9	1.2	64.0	55.0
Mathematics	120.2	7.7	121.3	9.2	1.1	0.13	1.2		K.1	K.1	45.0	35.0
Kindergarten, District: Gary Community Schools (N = 13)												
W Analysis	123.8	10.4	129.5	9.1	5.6	0.56	2.4	*	K.4	K.7	52.0	48.0
Mathematics	122.9	4.4	125.1	3.5	2.2	0.52	1.4		K.3	K.4	55.0	35.0
Kindergarten, District: Hammond (N = 22)												
W Analysis	116.5	16.4	128.6	10.8	12.1	0.86	4.0	***	K.0	K.7	49.0	44.0
Mathematics	118.9	9.1	124.6	6.1	5.7	0.73	3.1	**	K.0	K.4	47.0	35.0
Kindergarten, District: Hammond; School: Abraham Lincoln Elementary School (N = 10)												
W Analysis	116.5	6.7	124.5	8.2	8.0	1.03	3.3	**	K.0	K.5	44.5	37.0
Mathematics	118.6	6.4	123.5	3.7	4.9	0.89	2.2		K.0	K.3	46.0	32.0
Kindergarten, District: Montebello Unified (N = 23)												
W Analysis	118.1	6.5	124.3	9.2	6.2	0.77	3.1	**	K.1	K.4	47.0	41.0
Mathematics	116.8	8.2	120.3	8.2	3.6	0.43	1.6		K.0	K.1	38.0	27.0
Kindergarten, District: Montebello Unified: School: Suva Elementary (N = 11)												
W Analysis	118.4	7.2	121.1	9.1	2.7	0.32	1.0		K.1	K.2	47.0	34.0
Mathematics	116.8	10.4	120.3	6.0	3.5	0.39	1.3		K.0	K.1	34.0	27.0
Kindergarten, District: Montebello Unified; School: Winter Gardens Elementary (N = 12)												
W Analysis	117.8	6.0	127.3	8.6	9.4	1.23	3.3	**	K.1	K.6	47.0	51.5
Mathematics	116.8	6.1	120.4	10.2	3.7	0.42	1.0		K.0	K.1	45.0	27.0
Kindergarten, District: South Bend (N = 22)												
W Analysis	123.8	12.0	137.7	12.7	13.9	1.10	4.8	***	K.4	1.2	52.0	59.0
Mathematics	120.8	5.6	128.4	11.0	7.6	0.85	3.4	**	K.1	K.6	52.0	42.0
Kindergarten, District: Stockton Unified (N = 13)												
W Analysis	115.0	10.7	118.2	55.2	3.2	0.08	0.2		P.9	K.1	44.0	48.0
Mathematics	107.3	11.1	120.9	38.9	13.6	0.46	1.1		P.6	K.1	30.0	38.0

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

Table 15: Comparison of Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade One Students Served by Brain Hurricane in Large Districts and Schools, 2008-2009 (N >= 10)

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	t	p	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade One, District: Azusa (N = 10)												
W Analysis	126.7	6.0	156.6	11.9	29.9	3.03	7.4	***	K.6	2.2	31.0	55.0
Reading	134.4	10.6	144.0	6.2	9.6	1.06	2.9	*	1.0	1.5	51.0	36.0
Mathematics	132.0	7.3	148.2	15.0	16.2	1.31	3.0	*	K.9	1.7	37.5	41.5
Grade One, District: Azusa; School: Murray (N = 10)												
W Analysis	126.7	6.0	156.6	11.9	29.9	3.03	7.4	***	K.6	2.2	31.0	55.0
Reading	134.4	10.6	144.0	6.2	9.6	1.06	2.9	*	1.0	1.5	51.0	36.0
Mathematics	132.0	7.3	148.2	15.0	16.2	1.31	3.0	*	K.9	1.7	37.5	41.5
Grade One, District: Chicago Schools (N = 137)												
W Analysis	131.1	16.8	137.8	18.6	6.7	0.38	4.4	***	K.9	1.2	38.0	32.0
Reading	130.7	15.3	144.4	16.5	13.7	0.86	6.7	***	K.9	1.5	43.0	40.0
Mathematics	128.5	12.5	133.0	15.0	4.5	0.32	3.4	***	K.7	K.9	29.0	25.0
Grade One, District: Chicago Schools; School: Falconer (N = 18)												
W Analysis	135.6	12.6	145.6	17.9	10.0	0.63	3.0	**	1.1	1.6	44.5	42.5
Reading	137.3	10.8	145.0	16.2	7.7	0.55	2.5	*	1.2	1.5	43.0	40.0
Mathematics	132.3	7.8	138.4	15.9	6.2	0.48	2.2	*	K.9	1.2	37.0	30.0
Grade One, District: Chicago Schools; School: CICS - Irving Park (N = 13)												
W Analysis	134.0	23.7	150.4	17.4	16.4	0.76	3.0	*	1.0	1.8	41.0	47.0
Reading	131.3	7.0	152.0	16.5	20.7	1.58	3.6	**	K.9	1.9	43.0	57.0
Mathematics	123.5	13.9	136.5	16.1	13.0	0.84	2.9	*	K.3	1.1	20.0	26.0
Grade One, District: Chicago Schools; School: Linne (N = 11)												
W Analysis	125.5	12.8	128.7	11.3	3.3	0.26	0.7		K.5	K.7	34.0	22.0
Reading	133.7	8.3	140.3	8.2	6.5	0.77	2.4	*	1.0	1.3	43.0	28.0
Mathematics	124.5	5.7	131.5	5.4	7.0	1.21	4.7	***	K.4	K.9	27.0	20.0
Grade One, District: Elkhart (N = 38)												
W Analysis	135.9	13.9	140.9	17.3	5.0	0.32	2.9	**	1.1	1.3	45.0	32.0
Reading	138.5	8.2	141.9	11.6	3.4	0.33	2.5	*	1.2	1.4	51.0	35.0
Mathematics	133.9	13.6	139.0	12.9	5.1	0.38	3.1	**	1.0	1.2	33.0	26.0
Grade One, District: Elkhart; School: Roosevelt (N = 16)												
W Analysis	133.9	11.9	133.5	12.4	-0.4	-0.03	-0.2		1.0	1.0	46.5	28.5
Reading	138.9	8.0	139.4	10.1	0.4	0.05	0.3		1.3	1.3	51.0	32.0
Mathematics	135.5	16.7	136.7	12.5	1.2	0.08	0.4		1.1	1.1	37.5	24.0

Table 15 continues on next page



Table 15, continued

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	t	p	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade One, District: Fort Wayne Community Schools (N = 23)												
W Analysis	134.6	13.9	158.8	21.5	24.2	1.31	4.6	***	1.1	2.3	48.0	59.0
Reading	137.0	12.6	148.4	15.1	11.4	0.80	3.2	**	1.2	1.7	51.0	50.0
Mathematics	136.4	11.2	151.5	23.4	15.1	0.81	3.5	**	1.1	1.9	42.0	43.0
Grade One, District: Gary Community Schools (N = 18)												
W Analysis	135.0	5.6	134.5	10.3	-0.5	-0.06	-0.2		1.1	1.1	45.0	32.0
Reading	143.8	10.4	148.3	12.0	4.6	0.40	2.1	*	1.5	1.7	64.0	47.0
Mathematics	133.9	10.0	136.8	8.3	2.9	0.31	2.0		1.0	1.1	41.5	25.0
Grade One, District: Gary Community Schools; School: Beveridge Elementary (N = 10)												
W Analysis	131.8	3.9	131.1	11.2	-0.7	-0.08	-0.2		K.9	K.9	45.0	23.5
Reading	142.1	8.1	150.5	14.7	8.4	0.68	3.2	*	1.4	1.9	59.5	48.5
Mathematics	132.5	7.7	136.7	8.0	4.2	0.51	2.5	*	K.9	1.1	39.0	25.5
Grade One, District: Hammond (N = 29)												
W Analysis	140.9	19.6	148.5	25.0	7.6	0.33	1.6		1.3	1.7	53.0	45.0
Reading	136.2	15.8	142.8	23.1	6.6	0.33	1.6		1.1	1.4	56.0	50.0
Mathematics	131.9	15.5	147.1	22.7	15.3	0.77	3.8	***	K.9	1.6	37.0	48.0
Grade One, District: Huntington School Corporation (N = 11)												
W Analysis	130.9	10.6	138.3	11.6	7.4	0.64	1.5		K.9	1.2	45.0	32.0
Reading	125.6	8.5	137.4	6.0	11.7	1.52	3.5	**	K.5	1.2	17.0	26.0
Mathematics	132.0	9.6	143.4	17.3	11.4	0.78	2.9	*	K.9	1.4	33.0	34.0
Grade One, District: Lynwood (N = 13)												
W Analysis	133.1	18.2	146.8	18.9	13.7	0.71	2.9	*	1.0	1.6	53.0	47.0
Reading	146.3	11.7	149.4	14.3	3.1	0.23	1.3		1.6	1.7	68.0	47.0
Mathematics	126.9	18.4	141.3	17.3	14.4	0.78	3.1	**	K.6	1.3	29.0	37.0
Grade One, District: Montebello Unified (N = 16)												
W Analysis	123.1	9.3	151.3	27.2	28.1	1.35	3.6	**	K.3	1.9	29.0	42.5
Reading	136.1	10.0	143.1	23.2	6.9	0.38	1.2		1.1	1.4	45.5	42.0
Mathematics	126.4	14.8	127.4	30.8	1.0	0.04	0.1		K.5	K.6	41.0	20.0
Grade One, District: South Bend (N = 36)												
W Analysis	142.6	16.9	151.9	16.1	9.3	0.55	3.3	**	1.4	1.9	53.0	47.0
Reading	115.4	16.8	164.7	10.9	49.4	3.44	11.7	***	K.1	2.6	7.0	77.0
Mathematics	136.6	6.7	143.4	6.2	6.8	1.05	7.6	***	1.1	1.4	44.0	41.5
Grade One, District: Stockton Unified (N = 38)												
W Analysis	129.1	16.8	145.7	21.5	16.7	0.85	5.5	***	K.7	1.6	36.0	40.0
Reading	127.7	22.0	146.1	19.6	18.4	0.87	5.3	***	K.6	1.6	17.0	45.5
Mathematics	124.2	17.3	124.8	32.9	0.6	0.02	0.1		K.3	K.4	29.0	10.0

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

Table 16: Comparison of Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade Two Students Served by Brain Hurricane in Large Districts and Schools, 2008-2009 (N >= 10)

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	t	p	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Two, District: Azusa (N = 12)												
W Analysis	144.7	22.0	169.1	16.2	24.4	1.22	4.3	**	1.5	2.9	38.0	57.5
Reading	136.4	15.1	156.5	5.6	20.1	1.71	5.0	***	1.1	2.2	7.0	50.5
Mathematics	140.5	13.2	164.8	10.2	24.3	1.98	4.3	**	1.3	2.6	36.0	62.0
Grade Two, District: Azusa; School: Murray School (N = 12)												
W Analysis	144.7	22.0	169.1	16.2	24.4	1.22	4.3	**	1.5	2.9	38.0	57.5
Reading	136.4	15.1	156.5	5.6	20.1	1.71	5.0	***	1.1	2.2	7.0	50.5
Mathematics	140.5	13.2	164.8	10.2	24.3	1.98	4.3	**	1.3	2.6	36.0	62.0
Grade Two, District: Chicago Schools (N = 178)												
W Analysis	141.0	19.2	150.7	21.3	9.7	0.48	6.5	***	1.3	1.9	31.0	40.0
Reading	142.4	18.3	149.7	17.0	7.3	0.41	5.0	***	1.4	1.8	28.0	40.0
Mathematics	138.2	14.4	149.0	16.7	10.9	0.70	7.6	***	1.2	1.7	27.0	38.0
Grade Two, District: Chicago Schools; School: Falconer (N = 30)												
W Analysis	151.1	21.0	162.3	22.7	11.2	0.51	4.3	***	1.9	2.5	42.0	50.5
Reading	154.4	14.6	159.4	15.6	5.0	0.32	2.4	*	2.0	2.3	45.0	47.5
Mathematics	144.6	11.7	157.4	13.9	12.7	0.98	5.9	***	1.5	2.2	38.0	51.0
Grade Two, District: Chicago Schools; School: Guggenheim (N = 14)												
W Analysis	136.7	14.1	147.4	18.4	10.6	0.63	2.4	*	1.2	1.6	26.5	36.5
Reading	144.6	11.8	152.5	11.1	7.9	0.67	5.6	***	1.5	2.0	25.5	40.5
Mathematics	134.3	9.9	140.9	12.6	6.6	0.56	1.6		1.0	1.3	18.5	18.5
Grade Two, District: Chicago Schools; School: Lawndale (N = 12)												
W Analysis	150.4	9.6	165.2	14.9	14.8	1.14	4.2	**	1.8	2.6	45.0	55.5
Reading	142.1	14.7	155.9	10.8	13.8	1.03	5.5	***	1.4	2.1	33.5	46.0
Mathematics	148.1	5.4	160.1	6.7	12.0	1.91	7.2	***	1.7	2.3	38.0	58.0
Grade Two, District: Chicago Schools; School: Linne (N = 20)												
W Analysis	138.6	15.7	149.2	17.2	10.6	0.63	4.0	***	1.2	1.7	22.0	41.5
Reading	142.0	13.9	152.1	19.1	10.1	0.59	3.2	**	1.4	1.9	23.5	43.0
Mathematics	140.4	16.0	142.2	15.7	1.8	0.11	0.5		1.2	1.3	32.0	34.0
Grade Two, District: Chicago Schools; School: Powell (N = 12)												
W Analysis	133.3	19.3	139.3	17.8	6.0	0.31	1.3		1.0	1.2	19.5	32.0
Reading	141.9	14.3	148.3	15.6	6.4	0.41	4.9	***	1.4	1.7	29.5	36.0
Mathematics	141.0	11.3	142.4	21.7	1.4	0.08	0.3		1.3	1.3	33.0	32.5

Table 16 Continues on next page

Table 16, continued

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	t	p	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Two, District: East Noble School Corporation (N = 10)												
W Analysis	155.0	14.9	158.1	12.2	3.1	0.22	0.7		2.1	2.2	47.0	47.0
Reading	136.1	13.6	146.3	19.0	10.2	0.59	2.1		1.1	1.6	27.0	20.0
Mathematics	148.0	8.3	152.3	9.0	4.3	0.47	2.5 *		1.7	1.9	42.0	48.5
Grade Two, District: Elkhart (N = 35)												
W Analysis	153.6	17.2	160.9	17.5	7.3	0.42	4.7 ***		2.0	2.4	45.0	52.0
Reading	154.3	14.8	156.5	13.3	2.2	0.15	1.3		2.0	2.1	40.0	45.0
Mathematics	150.9	12.5	154.0	10.3	3.1	0.27	1.8		1.9	2.0	42.0	46.0
Grade Two, District: Elkhart; School: Roosevelt (N = 11)												
W Analysis	156.5	16.4	162.7	18.0	6.3	0.35	2.0		2.1	2.5	56.0	56.0
Reading	157.4	15.9	157.7	15.2	0.4	0.02	0.2		2.2	2.2	49.0	49.0
Mathematics	147.5	7.0	151.4	7.1	3.8	0.52	2.3 *		1.7	1.9	38.0	42.0
Grade Two, District: Fort Wayne Community Schools (N = 30)												
W Analysis	158.5	19.5	165.9	21.5	7.4	0.35	3.4 **		2.3	2.7	49.0	59.0
Reading	156.9	15.3	161.6	17.5	4.7	0.28	2.2 **		2.2	2.4	45.5	54.0
Mathematics	150.0	11.6	159.4	12.3	9.5	0.78	4.7 ***		1.8	2.3	42.0	51.0
Grade Two, District: Fort Wayne Community School; School: Fairfield Elementary (N = 16)												
W Analysis	159.0	23.6	162.2	22.9	3.2	0.13	1.3		2.3	2.5	49.0	54.0
Reading	154.2	12.5	159.9	17.9	5.8	0.36	2.1		2.0	2.3	45.0	47.5
Mathematics	152.1	10.0	158.5	12.7	6.4	0.55	2.6 *		1.9	2.3	44.0	51.0
Grade Two, District: Gary Community Schools (N = 15)												
W Analysis	149.1	19.2	147.8	12.9	-1.3	-0.08	-0.3		1.7	1.7	33.0	35.0
Reading	148.8	14.4	149.4	11.1	0.6	0.05	0.2		1.7	1.7	32.0	38.0
Mathematics	146.8	11.2	154.7	19.4	7.9	0.48	1.9		1.6	2.1	38.0	42.0
Grade Two, District: Goshen Community Schools (N = 14)												
W Analysis	148.6	24.9	161.7	12.6	13.1	0.65	2.3 *		1.7	2.5	43.5	54.0
Reading	149.0	14.5	156.5	10.3	7.5	0.58	2.1		1.7	2.2	40.0	49.0
Mathematics	141.4	14.1	151.4	12.4	10.0	0.73	2.4 *		1.3	1.9	32.0	40.0
Grade Two, District: Hammond (N = 17)												
W Analysis	151.9	17.6	161.6	20.0	9.7	0.50	3.5 **		1.9	2.5	40.0	45.0
Reading	153.5	6.8	158.9	13.3	5.4	0.50	2.0		2.0	2.3	46.0	52.0
Mathematics	148.8	7.8	155.8	7.8	7.0	0.88	4.5 **		1.7	2.1	38.0	46.0
Grade Two, District: Lynwood (N = 13)												
W Analysis	154.5	26.9	163.7	24.0	9.2	0.35	2.4 *		2.1	2.6	49.0	52.0
Reading	152.6	13.0	158.3	15.3	5.7	0.39	3.3 **		2.0	2.2	43.0	49.0
Mathematics	145.9	11.9	157.5	12.3	11.6	0.93	4.0 **		1.6	2.2	32.0	51.0

Table 16 Continues on next page

Table 16, continued

ITBS Subtest	SS <i>M</i> Pre	SS <i>SD</i> Pre	SS <i>M</i> Post	SS <i>SD</i> Post	<i>M</i> Diff	E.S. ( <i>d</i> )	<i>t</i>	<i>p</i>	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Two, District: Montebello Unified ( <i>N</i> = 25)												
W Analysis	139.7	19.0	155.2	16.5	15.5	0.86	4.0	***	1.3	2.1	31.0	40.0
Reading	145.5	11.0	154.2	8.9	8.7	0.85	4.7	***	1.6	2.0	36.0	46.0
Mathematics	136.9	17.4	148.4	17.6	11.5	0.65	3.9	***	1.1	1.7	27.0	42.0
Grade Two, District: Montebello Unified; School: Suva Elementary ( <i>N</i> = 11)												
W Analysis	144.9	17.3	158.3	21.3	13.4	0.66	3.4	**	1.5	2.2	28.0	45.0
Reading	148.2	11.6	157.3	10.5	9.1	0.79	5.9	***	1.7	2.2	38.0	49.0
Mathematics	147.9	9.3	157.2	11.5	9.3	0.85	3.5	**	1.7	2.2	38.0	51.0
Grade Two, District: Montebello Unified; School: Winter Gardens Elementary ( <i>N</i> = 10)												
W Analysis	146.1	10.2	149.8	9.4	3.7	0.36	1.1		1.6	1.8	34.5	39.0
Reading	148.8	5.9	152.1	5.9	3.3	0.54	2.1		1.7	1.9	38.0	42.0
Mathematics	137.4	10.1	146.4	5.8	9.0	1.04	2.4	*	1.1	1.6	25.0	36.0
Grade Two, District: North Chicago Schools ( <i>N</i> = 16)												
W Analysis	145.3	21.3	158.7	17.6	13.4	0.67	3.2	**	1.5	2.3	36.5	47.0
Reading	141.5	16.3	163.1	17.4	21.6	1.25	6.8	***	1.4	2.5	27.0	51.0
Mathematics	150.2	12.7	157.6	15.0	7.4	0.52	3.1	**	1.8	2.2	34.0	58.0
Grade Two, District: North Chicago; School: North Elementary ( <i>N</i> = 15)												
W Analysis	145.0	22.0	159.1	18.1	14.1	0.68	3.2	**	1.5	2.3	35.0	49.0
Reading	140.7	16.5	163.3	18.0	22.6	1.27	7.0	***	1.4	2.5	22.0	46.0
Mathematics	150.5	13.1	157.3	15.5	6.8	0.46	2.8	*	1.9	2.2	34.0	58.0
Grade Two, District: South Bend ( <i>N</i> = 28)												
W Analysis	151.7	16.0	160.1	17.9	8.4	0.49	2.6	*	1.9	2.4	38.0	47.0
Reading	151.2	11.5	159.0	13.8	7.8	0.60	3.1	**	1.9	2.3	35.0	52.0
Mathematics	145.8	13.3	155.3	10.5	9.5	0.78	4.4	***	1.6	2.1	32.0	46.0
Grade Two, District: Stockton Unified ( <i>N</i> = 25)												
W Analysis	133.0	17.1	153.2	14.8	20.1	1.24	4.5	***	1.0	2.0	22.0	45.0
Reading	135.4	16.9	151.0	15.7	15.6	0.94	4.9	***	1.1	1.9	19.0	43.0
Mathematics	129.6	15.3	129.7	22.6	0.1	0.00	0.0		k.8	k.8	7.0	20.0

\*\*\**p* < .001, \*\**p* < .01, \**p* < .05

Table 17: Comparison of Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade Three Students Served by Brain Hurricane in Large Districts and Schools, 2008-2009 (N >= 10)

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	t	p	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Three, District: Chicago Schools (N = 134)												
Reading	157.2	28.6	166.5	28.2	9.3	0.32	4.0	***	2.2	2.7	37.0	33.0
Mathematics	164.7	20.2	181.8	30.4	17.1	0.66	6.4	***	2.5	3.5	34.0	40.0
Grade Three, District: Chicago Schools; School: Armstrong G (N = 12)												
Reading	157.2	8.5	163.0	13.1	5.8	0.51	1.6		2.2	2.5	32.0	32.0
Mathematics	166.3	10.1	165.5	14.0	-0.8	-0.07	-0.3		2.6	2.6	38.0	29.0
Grade Three, District: Chicago Schools; School: Falconer (N = 14)												
Reading	163.1	16.1	173.6	13.7	10.6	0.69	3.4	**	2.5	3.1	39.0	40.0
Mathematics	181.4	21.2	192.6	27.5	11.2	0.44	1.8		3.5	4.3	58.0	47.5
Grade Three, District: Chicago Schools; School: Linne (N = 12)												
Reading	165.4	18.8	166.2	19.7	0.8	0.04	0.3		2.6	2.7	37.5	37.5
Mathematics	164.8	25.8	185.6	29.3	20.8	0.73	3.9	**	2.5	3.8	29.0	53.0
Grade Three, District: Elkhart (N = 30)												
Reading	167.7	12.6	172.5	13.0	4.8	0.37	2.6	*	2.8	3.0	40.0	39.0
Mathematics	191.4	29.6	202.1	30.6	10.7	0.35	2.8	**	4.1	4.9	66.0	59.0
Grade Three, District: Elkhart; School: Hawthorne (N = 13)												
Reading	165.8	14.9	170.0	12.8	4.2	0.29	1.8		2.7	2.9	39.0	32.0
Mathematics	185.1	31.6	197.2	34.1	12.2	0.36	2.3	*	3.7	4.5	58.0	54.0
Grade Three, District: Fort Wayne Community Schools (N = 11)												
Reading	179.8	25.6	147.5	75.6	-32.4	-0.55	-1.2		3.4	1.6	54.0	46.0
Mathematics	196.5	25.3	226.2	18.4	29.6	1.29	4.2	**	4.5	6.7	71.0	99.0
Grade Three, District: Huntington School Corporation (N = 10)												
Reading	160.2	13.5	178.1	11.7	17.9	1.36	5.1	***	2.3	3.3	30.0	45.0
Mathematics	180.6	23.4	202.6	30.8	22.0	0.77	3.5	**	3.5	4.9	53.5	61.5
Grade Three, District: Lynwood (N = 11)												
Reading	168.4	15.1	173.9	12.3	5.5	0.39	1.5		2.8	3.1	44.0	39.0
Mathematics	193.9	26.4	215.1	29.1	21.2	0.73	2.8	*	4.4	5.9	66.0	85.0
Grade Three, District: Montebello Unified (N = 10)												
Reading	143.0	54.6	163.0	63.1	20.0	0.32	2.9	*	1.5	2.5	27.0	42.5
Mathematics	177.0	27.3	211.3	28.9	34.3	1.17	5.0	***	3.2	5.5	47.5	74.5

Table 17 Continues on next page

Table 17, continued

ITBS Subtest	SS <i>M</i> Pre	SS <i>SD</i> Pre	SS <i>M</i> Post	SS <i>SD</i> Post	<i>M</i> Diff	E.S. ( <i>d</i> )	<i>t</i>	<i>p</i>	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Three, District: North Chicago Schools ( <i>N</i> = 12)												
Reading	163.5	13.6	181.6	20.5	18.1	1.00	3.7	**	2.6	3.6	39.0	45.0
Mathematics	189.2	27.5	201.0	30.2	11.8	0.40	3.0	*	4.0	4.8	56.0	51.0
Grade Three, District: North Chicago; School: North Elementary ( <i>N</i> = 11)												
Reading	162.6	13.9	181.2	21.4	18.5	0.99	3.5	**	2.5	3.5	37.0	41.0
Mathematics	184.5	23.4	197.5	29.0	12.9	0.47	3.1	*	3.7	4.5	54.0	51.0
Grade Three, District: Santa Ana Unified ( <i>N</i> = 18)												
Reading	164.8	14.1	175.0	16.7	10.2	0.65	3.0	**	2.6	3.1	37.0	42.5
Mathematics	175.3	21.5	198.3	30.9	23.0	0.85	3.8	**	3.1	4.6	41.0	55.5
Grade Three, District: South Bend ( <i>N</i> = 11)												
Reading	178.5	18.9	181.1	12.3	2.6	0.16	0.5		3.3	3.5	59.0	49.0
Mathematics	184.5	22.7	200.7	24.1	16.2	0.67	2.4	*	3.7	4.8	58.0	64.0
Grade Three, District: Stockton Unified ( <i>N</i> = 13)												
Reading	170.6	21.5	169.2	53.1	-1.5	-0.03	-0.1		2.9	2.8	37.0	46.0
Mathematics	182.5	29.6	212.0	28.3	29.5	0.99	3.6	**	3.6	5.6	49.0	72.0
Grade Three, District: Waukegan Schools ( <i>N</i> = 12)												
Reading	167.8	13.3	175.2	15.9	7.3	0.48	1.7		2.8	3.1	42.5	44.0
Mathematics	170.9	15.1	207.8	29.9	36.9	1.50	7.1	***	2.9	5.3	50.0	72.0

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

Table 18: Comparison of Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade Four Students Served by Brain Hurricane in Large Districts and Schools, 2008-2009 (N >= 10)

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	t	p	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Four, District: Azusa (N = 10)												
Reading	156.7	18.5	201.8	17.2	45.1	2.42	8.3	***	2.2	4.9	21.5	43.0
Mathematics	164.6	28.9	234.2	13.3	69.6	2.97	8.1	***	2.5	7.4	18.5	81.0
Grade 4, District: Azusa; School: Murray School (N = 10)												
Reading	156.7	18.5	201.8	17.2	45.1	2.42	8.3	***	2.2	4.9	21.5	43.0
Mathematics	164.6	28.9	234.2	13.3	69.6	2.97	8.1	***	2.5	7.4	18.5	81.0
Grade Four, District: Chicago Schools (N = 144)												
Reading	173.4	18.4	180.1	20.1	6.7	0.35	5.8	***	3.0	3.4	38.0	37.0
Mathematics	192.7	33.2	211.3	32.2	18.6	0.57	7.6	***	4.3	5.5	49.0	67.0
Grade Four, District: Chicago Schools; School: Armstrong G (N = 16)												
Reading	171.2	24.3	178.1	28.1	6.9	0.26	2.0		2.9	3.3	38.0	39.0
Mathematics	199.4	29.3	220.5	30.0	21.1	0.69	2.9	*	4.7	6.3	54.0	81.0
Grade Four, District: Chicago Schools; School: Falconer (N = 31)												
Reading	178.5	17.4	187.4	19.1	8.9	0.48	4.0	***	3.4	3.9	40.0	40.0
Mathematics	201.4	33.6	221.5	24.6	20.2	0.68	3.0	**	4.8	6.4	67.0	81.0
Grade Four, District: Chicago Schools; School: Guggenheim (N = 15)												
Reading	180.1	22.6	190.8	11.0	10.7	0.58	2.0		3.4	4.1	40.0	46.0
Mathematics	207.3	28.0	228.2	25.2	20.9	0.76	2.4	*	5.3	6.8	59.0	81.0
Grade Four, District: Chicago Schools; School: Linne (N = 20)												
Reading	167.4	15.9	174.4	15.0	7.0	0.44	2.2	*	2.7	3.1	24.0	28.5
Mathematics	193.3	31.2	210.1	34.0	16.9	0.51	3.4	**	4.3	5.5	46.0	69.5
Grade Four, District: Elkhart (N = 19)												
Reading	176.8	16.8	184.1	17.0	7.3	0.42	2.6	*	3.3	3.7	40.0	34.0
Mathematics	208.0	32.7	211.0	33.9	3.0	0.09	0.5		5.3	5.5	53.0	67.0
Grade Four, District: Fort Wayne Community Schools (N = 30)												
Reading	178.8	36.5	177.8	63.5	-0.9	-0.02	-1.0		3.4	3.3	44.5	46.0
Mathematics	224.1	23.4	231.1	19.4	7.0	0.32	1.9		6.5	7.1	99.0	81.0
Grade Four, District: Fort Wayne Community School; School: Fairfield Elementary (N = 22)												
Reading	175.4	42.2	168.5	71.4	-7.0	-0.12	-0.5		3.1	2.8	44.0	44.5
Mathematics	223.7	24.3	228.6	22.0	5.0	0.21	1.1		6.5	6.9	99.0	81.0

Table 18 continues on next page

Table 18, continued

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	t	p	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Four, District: Hammond (N = 13)												
Reading	182.7	14.2	187.8	16.3	5.1	0.32	1.8		3.7	4.0	47.0	39.0
Mathematics	223.2	26.5	231.1	15.3	7.9	0.36	1.4		6.5	7.1	99.0	81.0
Grade Four, District: Huntington School Corporation (N = 11)												
Reading	177.7	15.6	195.9	17.9	18.2	1.04	5.9	***	3.3	4.5	41.0	46.0
Mathematics	211.8	29.8	225.4	29.3	13.5	0.44	1.7		5.6	6.6	67.0	81.0
Grade Four, District: Lynwood (N = 17)												
Reading	178.2	10.0	183.9	12.3	5.6	0.49	2.1	*	3.3	3.7	40.0	37.0
Mathematics	221.9	24.4	226.6	21.8	4.7	0.20	0.7		6.4	6.7	99.0	81.0
Grade Four, District: Montebello Unified (N = 16)												
Reading	154.4	11.6	169.8	15.4	15.4	1.10	3.8	**	2.0	2.9	13.5	19.0
Mathematics	161.9	24.3	191.2	40.5	29.3	0.85	2.9	*	2.4	4.1	15.0	35.0
Grade Four, District: Santa Ana Unified (N = 15)												
Reading	168.4	18.1	177.3	25.9	8.9	0.39	1.7		2.8	3.3	29.0	27.0
Mathematics	181.5	30.2	203.2	29.2	21.7	0.71	4.2	***	3.5	4.9	35.0	44.0
Grade Four, District: South Bend (N = 15)												
Reading	178.8	11.4	186.1	8.5	7.3	0.70	2.5	*	3.4	3.9	38.0	39.0
Mathematics	197.5	31.7	212.9	27.7	15.4	0.50	2.5	*	4.5	5.7	45.0	67.0
Grade Four, District: Stockton Unified (N = 15)												
Reading	159.3	49.9	177.6	28.7	18.3	0.44	1.0		2.3	3.3	24.0	24.0
Mathematics	185.6	34.5	208.3	28.8	22.7	0.69	2.0		3.8	5.3	45.0	58.0

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$



Table 19: Comparison of Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade Five Students Served by Brain Hurricane in Large Districts and Schools, 2008-2009 (N >= 10)

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	t	p	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Five, District: Chicago Schools (N = 102)												
Reading	183.3	17.8	192.0	21.2	8.7	0.4	5.1	***	3.7	4.2	33.0	36.0
Mathematics	202.4	32.3	219.0	38.6	16.5	0.5	5.0	***	4.9	6.2	41.0	47.0
Grade Five, District: Chicago; School: Falconer (N = 21)												
Reading	190.3	19.0	197.4	23.3	7.1	0.3	2.0		4.1	4.6	36.0	42.0
Mathematics	226.1	34.4	246.1	39.6	20.0	0.5	4.0	***	6.7	8.4	63.0	71.0
Grade Five, District: Chicago; School: Guggenheim (N = 12)												
Reading	186.3	14.7	190.8	15.1	4.4	0.3	0.9		3.9	4.1	38.0	33.5
Mathematics	205.6	25.8	203.5	23.8	-2.1	-0.1	-0.2		5.2	5.0	47.5	38.5
Grade Five, District: Elkhart (N = 20)												
Reading	185.4	21.3	191.2	23.6	5.8	0.3	1.4		3.8	4.1	34.0	28.0
Mathematics	220.2	36.1	227.3	37.4	7.2	0.2	1.5		6.2	6.7	57.0	50.0
Grade Five, District: Fort Wayne Community Schools (N = 18)												
Reading	184.6	50.8	171.1	79.8	-13.4	-0.2	-0.8		3.8	2.9	36.0	40.0
Mathematics	225.3	29.3	249.0	30.5	23.7	0.8	2.8	*	6.6	8.7	60.0	75.0
Grade Five, District: Fort Wayne Community Schools; School: Fairfield Elementary (N = 15)												
Reading	181.1	54.0	177.5	73.3	-3.6	-0.1	-0.3		3.5	3.3	36.0	40.0
Mathematics	225.0	29.8	245.1	31.3	20.1	0.6	2.4	*	6.6	8.3	60.0	71.0
Grade Five, District: Hammond (N = 10)												
Reading	192.1	21.0	206.7	19.3	14.6	0.7	4.3	**	4.2	5.3	37.0	44.5
Mathematics	219.7	34.8	243.3	37.9	23.6	0.6	2.1		6.2	8.1	60.0	66.0

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

Table 20: Comparison of Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade Six through Grade Eight Students Served by Brain Hurricane in Large Districts and Schools, 2008-2009 (N >= 10)

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	t	p	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Six, District: Chicago Schools (N = 80)												
Reading	188.2	22.7	196.6	24.2	8.4	0.36	4.2	***	4.0	4.6	25.0	29.0
Mathematics	213.6	32.7	223.4	36.3	9.8	0.28	3.5	***	5.8	6.5	42.5	45.0
Grade Six, District: Chicago Schools; School: Falconer (N = 13)												
Reading	190.5	15.9	196.9	17.8	6.4	0.37	1.3		4.1	4.6	34.0	29.0
Mathematics	226.8	23.4	239.6	33.6	12.8	0.43	1.5		6.7	7.8	55.0	60.0
Grade Six, District: Chicago Schools; School: Guggenheim (N = 12)												
Reading	197.9	19.9	203.7	25.5	5.8	0.24	1.2		4.6	5.0	32.5	33.0
Mathematics	224.8	36.5	218.7	37.2	-6.2	-0.16	-1.1		6.6	6.2	50.5	36.5
Grade Six, District: Elkhart (N = 13)												
Reading	199.8	16.5	201.9	18.3	2.1	0.12	0.6		4.8	4.9	39.0	29.0
Mathematics	246.2	40.4	254.8	35.9	8.7	0.22	1.5			9.3	62.0	80.0
Grade Six, District: Waukegan Schools (N = 15)												
Reading	195.3	23.3	204.5	21.5	9.1	0.40	1.8		4.4	5.0	34.0	32.0
Mathematics	220.3	31.7	251.5	41.0	31.2	0.83	4.4	***	6.2	9.0	46.0	65.0
Grade Six, District: Waukegan Schools; School: Abbott Middle (N = 10)												
Reading	198.8	24.2	207.0	22.3	8.2	0.34	1.5		4.7	5.3	36.5	37.0
Mathematics	225.5	33.5	250.8	44.5	25.3	0.62	2.8	*	6.7	8.9	47.0	79.0
Grade Seven, District: Chicago Schools (N = 40)												
Reading	193.5	18.4	202.8	22.7	9.3	0.45	3.5	**	4.3	5.0	24.0	27.5
Mathematics	214.3	41.7	224.3	34.0	10.0	0.26	2.0		5.8	6.5	31.0	40.0
Grade Seven, District: Chicago Schools; School: Guggenheim (N = 12)												
Reading	199.9	15.9	209.3	20.7	9.4	0.49	1.9		4.8	5.4	28.0	32.0
Mathematics	221.3	52.4	229.8	38.9	8.5	0.18	1.0		6.3	7.0	25.0	38.0
Grade Eight, District: Chicago Schools (N = 39)												
Reading	196.1	20.1	200.3	23.1	4.3	0.19	1.6		4.5	4.8	22.0	19.0
Mathematics	220.2	36.0	230.3	43.1	10.1	0.25	1.9		6.2	7.0	36.0	38.0
Grade Eight, District: Chicago Schools; School: Guggenheim (N = 18)												
Reading	194.1	18.3	201.1	21.9	7.0	0.34	2.0		4.3	4.8	20.5	19.0
Mathematics	231.7	36.8	234.1	34.6	2.3	0.06	0.4		7.2	7.4	42.5	39.5

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

Table 21: Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Kindergarten Students Served by Brain Hurricane within Districts, 2008-2009

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Kindergarten, District: Anderson Community Schools (N = 1)										
Word Analysis	109.0	.	140.0	.	31.0	na	P.7	1.3	31.0	63.0
Mathematics	120.0	.	140.0	.	20.0	na	K.1	1.3	47.0	69.0
Kindergarten, District: Azusa (N = 8)										
Word Analysis	111.1	9.6	144.8	10.4	33.6	3.18	P.8	1.5	32.5	70.5
Mathematics	106.1	5.5	137.0	9.3	30.9	3.82	P.6	1.1	12.0	63.5
Kindergarten, District: Corona Norco (N = 5)										
Word Analysis	122.2	2.5	127.4	6.9	5.2	0.91	K.3	K.6	52.0	44.0
Mathematics	112.6	3.3	117.4	3.8	4.8	1.21	P.8	K.0	25.0	20.0
Kindergarten, District: East Noble School Corporation (N = 2)										
Word Analysis	125.0	1.4	140.0	0.0	15.0	8.46	K.5	1.3	57.0	63.0
Mathematics	116.5	4.9	125.0	5.7	8.5	0.90	K.0	K.4	38.5	37.0
Kindergarten, District: El Monte (N = 8)										
Word Analysis	122.8	7.6	113.4	52.0	-9.4	-0.24	K.3	P.9	50.5	30.0
Mathematics	101.3	15.6	129.0	5.3	27.8	2.25	P.4	K.7	7.0	50.0
Kindergarten, District: Elkhart (N = 40)										
Word Analysis	128.9	12.5	134.7	16.3	5.9	0.40	K.7	1.1	64.0	52.0
Mathematics	119.5	7.1	121.2	9.4	1.8	0.21	K.0	K.1	45.0	32.0
Kindergarten, District: Fontana (N = 1)										
Word Analysis	104.0	.	102.0	.	-2.0	na	P.5	P.5	22.0	7.0
Mathematics	107.0	.	103.0	.	-4.0	na	P.6	P.5	17.0	7.0
Kindergarten, District: Fort Wayne Community Schools (N = 6)										
Word Analysis	123.0	12.4	146.3	21.5	23.3	1.22	K.3	1.6	55.5	68.0
Mathematics	119.7	8.2	134.8	17.0	15.2	1.05	K.1	1.0	52.0	53.5
Kindergarten, District: Frankfort Community Schools (N = 3)										
Word Analysis	122.0	14.1	145.3	11.9	23.3	1.43	K.3	1.5	49.0	63.0
Mathematics	123.0	6.9	133.3	5.8	10.3	1.29	K.3	K.9	64.0	50.0

Table 21 continues on next page

Table 21, continued

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Kindergarten, District: Gary Community Schools (N = 13)										
Word Analysis	123.8	10.4	129.5	9.1	5.6	0.56	K.4	K.7	52.0	48.0
Mathematics	122.9	4.4	125.1	3.5	2.2	0.52	K.3	K.4	55.0	35.0
Kindergarten, District: Goshen Community Schools (N = 6)										
Word Analysis	114.3	4.3	121.0	7.3	6.7	1.02	P.9	K.2	40.0	39.0
Mathematics	113.3	2.7	118.8	1.6	5.5	2.31	P.8	K.0	29.5	23.0
Kindergarten, District: Hammond (N = 22)										
Word Analysis	116.5	16.4	128.6	10.8	12.1	0.86	K.0	K.7	49.0	44.0
Mathematics	118.9	9.1	124.6	6.1	5.7	0.73	K.0	K.4	47.0	35.0
Kindergarten, District: Highland (N = 1)										
Word Analysis	148.0	.	166.0	.	18.0	na	1.7	2.7	90.0	93.0
Mathematics	124.0	.	134.0	.	10.0	na	K.3	1.0	58.0	58.0
Kindergarten, District: Huntington School Corporation (N = 9)										
Word Analysis	118.7	18.4	133.7	18.4	15.0	0.78	K.1	1.0	40.0	48.0
Mathematics	111.9	11.9	127.0	6.6	15.1	1.50	P.8	K.6	13.0	38.0
Kindergarten, District: Lafayette School Corporation (N = 2)										
Word Analysis	120.0	8.5	137.0	8.5	17.0	1.13	K.2	1.2	49.5	59.5
Mathematics	122.0	4.2	133.5	9.2	11.5	0.91	K.2	1.0	52.0	55.5
Kindergarten, District: Lodi Unified (N = 4)										
Word Analysis	108.8	7.8	126.0	18.3	17.3	1.07	P.7	K.5	29.0	48.0
Mathematics	113.0	10.5	117.5	3.3	4.5	0.50	P.8	K.0	31.0	22.5
Kindergarten, District: Lynwood (N = 4)										
Word Analysis	130.0	3.4	139.5	9.8	9.5	1.12	K.8	1.3	65.0	63.0
Mathematics	118.3	9.1	125.0	7.9	6.8	0.69	K.0	K.4	37.0	36.0
Kindergarten, District: Montebello Unified (N = 23)										
Word Analysis	118.1	6.5	124.3	9.2	6.2	0.77	K.1	K.4	47.0	41.0
Mathematics	116.8	8.2	120.3	8.2	3.6	0.43	K.0	K.1	38.0	27.0

Table 21 continues on next page

Table 21, continued

ITBS Subtest	SS <i>M</i> Pre	SS <i>SD</i> Pre	SS <i>M</i> Post	SS <i>SD</i> Post	<i>M</i> Diff	E.S. ( <i>d</i> )	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Kindergarten, District: MSD Perry Township Schools ( <i>N</i> = 1)										
Word Analysis	107.0	.	131.0	.	24.0	na	P.6	K.9	27.0	52.0
Mathematics	111.0	.	130.0	.	19.0	na	P.8	K.8	25.0	50.0
Kindergarten, District: MSD Wayne Township Schools ( <i>N</i> = 5)										
Word Analysis	118.2	12.0	141.0	20.2	22.8	1.24	K.1	1.3	47.0	52.0
Mathematics	112.8	9.8	123.0	7.6	10.2	1.05	P.8	K.3	22.0	38.0
Kindergarten, District: North Chicago Schools ( <i>N</i> = 9)										
Word Analysis	107.0	11.8	125.7	16.5	18.7	1.24	P.6	K.5	17.0	48.0
Mathematics	102.0	6.5	125.1	6.6	23.1	3.36	P.5	K.4	7.0	42.0
Kindergarten, District: Paramount Unified ( <i>N</i> = 1)										
Word Analysis	111.0	.	140.0	.	29.0	na	P.8	1.3	34.0	63.0
Mathematics	120.0	.	140.0	.	20.0	na	K.1	1.3	47.0	69.0
Kindergarten, District: Patterson Joint Unified ( <i>N</i> = 1)										
Word Analysis	90.0	.	129.0	.	39.0	na	P.0	K.7	7.0	48.0
Mathematics	90.0	.	119.0	.	29.0	na	P.0	K.0	7.0	23.0
Kindergarten, District: South Bend ( <i>N</i> = 22)										
Word Analysis	123.8	12.0	137.7	12.7	13.9	1.10	K.4	1.2	52.0	59.0
Mathematics	120.8	5.6	128.4	11.0	7.6	0.85	K.1	K.6	52.0	42.0
Kindergarten, District: Stockton Unified ( <i>N</i> = 13)										
Word Analysis	115.0	10.7	118.2	55.2	3.2	0.08	P.9	K.1	44.0	48.0
Mathematics	107.3	11.1	120.9	38.9	13.6	0.46	P.6	K.1	30.0	38.0
Kindergarten, District: Tippecanoe School Corporation ( <i>N</i> = 6)										
Word Analysis	115.3	5.6	135.0	14.0	19.7	1.70	P.9	1.1	40.5	55.0
Mathematics	116.7	5.9	126.8	5.8	10.2	1.60	K.0	K.6	41.5	38.0
Kindergarten, District: Washington Community Schools ( <i>N</i> = 8)										
Word Analysis	117.9	6.6	125.6	10.1	7.8	0.86	K.1	K.5	45.5	44.5
Mathematics	114.0	7.9	117.6	8.0	3.6	0.43	P.9	K.0	34.0	28.5

Table 22: Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade One Students Served by Brain Hurricane within Districts, 2008-2009

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade One, District: Anderson Community Schools (N = 6)										
Word Analysis	133.8	11.2	160.0	9.4	26.2	2.34	1.0	2.4	50.5	64.0
Reading	142.5	4.7	155.2	16.3	12.7	0.97	1.4	2.1	63.0	57.5
Mathematics	132.3	6.4	147.7	12.2	15.3	1.45	K.9	1.7	41.5	40.0
Grade One, District: Azusa (N = 10)										
Word Analysis	126.7	6.0	156.6	11.9	29.9	3.03	K.6	2.2	31.0	55.0
Reading	134.4	10.6	144.0	6.2	9.6	1.06	1.0	1.5	51.0	36.0
Mathematics	132.0	7.3	148.2	15.0	16.2	1.31	K.9	1.7	37.5	41.5
Grade One, District: Chicago Schools (N = 137)										
Word Analysis	131.1	16.8	137.8	18.6	6.7	0.38	K.9	1.2	38.0	32.0
Reading	130.7	15.3	144.4	16.5	13.7	0.86	K.9	1.5	43.0	40.0
Mathematics	128.5	12.5	133.0	15.0	4.5	0.32	K.7	K.9	29.0	25.0
Grade One, District: Corona Norco (N = 6)										
Word Analysis	130.8	6.2	145.2	7.1	14.3	1.98	K.9	1.5	41.0	41.5
Reading	136.0	5.8	140.2	4.7	4.2	0.73	1.1	1.3	45.5	30.0
Mathematics	125.3	5.1	131.7	3.8	6.3	1.30	K.4	K.9	25.0	24.0
Grade One, District: East Noble School Corporation (N = 9)										
Word Analysis	138.4	12.1	147.9	13.7	9.4	0.70	1.2	1.7	56.0	51.0
Reading	130.3	11.6	145.2	11.4	14.9	1.24	K.8	1.5	34.0	51.0
Mathematics	141.6	13.9	151.6	17.8	10.0	0.60	1.4	1.9	51.0	52.0
Grade One, District: El Monte (N = 1)										
Word Analysis	134.0	.	121.0	.	-13.0	na	1.0	K.2	45.0	10.0
Reading	170.0	.	170.0	.	0.0	na	2.9	2.9	93.0	77.0
Mathematics	95.0	.	134.0	.	39.0	na	P.2	1.0	7.0	25.0
Grade One, District: Elkhart (N = 38)										
Word Analysis	135.9	13.9	140.9	17.3	5.0	0.32	1.1	1.3	45.0	32.0
Reading	138.5	8.2	141.9	11.6	3.4	0.33	1.2	1.4	51.0	35.0
Mathematics	133.9	13.6	139.0	12.9	5.1	0.38	1.0	1.2	33.0	26.0

Table 22 continues on next page

Table 22, continued

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade One, District: Huntington School Corporation (N = 11)										
Word Analysis	130.9	10.6	138.3	11.6	7.4	0.64	K.9	1.2	45.0	32.0
Reading	125.6	8.5	137.4	6.0	11.7	1.52	K.5	1.2	17.0	26.0
Mathematics	132.0	9.6	143.4	17.3	11.4	0.78	K.9	1.4	33.0	34.0
Grade One, District: Lafayette School Corporation (N = 3)										
Word Analysis	147.0	17.5	150.7	22.8	3.7	0.14	1.6	1.9	64.0	55.0
Reading	145.0	13.2	150.3	10.0	5.3	0.36	1.5	1.8	56.0	51.0
Mathematics	146.0	24.4	148.0	27.7	2.0	0.06	1.6	1.7	44.0	24.0
Grade One, District: Lodi Unified (N = 4)										
Word Analysis	114.0	26.4	129.5	5.2	15.5	0.71	P.9	K.8	11.0	25.0
Reading	114.5	17.0	150.5	13.1	36.0	2.06	K.1	1.9	7.0	41.0
Mathematics	114.0	22.9	140.0	12.8	26.0	1.22	P.9	1.3	16.0	36.0
Grade One, District: Lynwood (N = 13)										
Word Analysis	133.1	18.2	146.8	18.9	13.7	0.71	1.0	1.6	53.0	47.0
Reading	146.3	11.7	149.4	14.3	3.1	0.23	1.6	1.7	68.0	47.0
Mathematics	126.9	18.4	141.3	17.3	14.4	0.78	K.6	1.3	29.0	37.0
Grade One, District: Montebello Unified (N = 16)										
Word Analysis	123.1	9.3	151.3	27.2	28.1	1.35	K.3	1.9	29.0	42.5
Reading	136.1	10.0	143.1	23.2	6.9	0.38	1.1	1.4	45.5	42.0
Mathematics	126.4	14.8	127.4	30.8	1.0	0.04	K.5	K.6	41.0	20.0
Grade One, District: MSD Lawrence Township Schools (N = 7)										
Word Analysis	137.0	19.4	137.1	22.0	0.1	0.01	1.2	1.2	61.0	40.0
Reading	132.1	12.3	139.0	16.5	6.9	0.44	K.9	1.3	43.0	28.0
Mathematics	125.7	15.7	128.9	15.5	3.1	0.19	K.5	K.7	27.0	24.0
Grade One, District: MSD Perry Township Schools (N = 4)										
Word Analysis	137.0	19.6	155.0	12.8	18.0	0.94	1.2	2.1	45.5	53.0
Reading	146.3	5.2	155.3	6.6	9.0	1.32	1.6	2.1	70.5	60.0
Mathematics	138.8	9.9	145.3	13.6	6.5	0.48	1.2	1.5	58.0	52.0

Table 22 continues on next page

Table 22, continued

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade One, District: MSD Pike Township Schools (N = 2)										
Word Analysis	144.5	14.8	151.5	17.7	7.0	0.24	1.5	1.9	58.5	50.0
Reading	147.0	5.7	154.0	22.6	7.0	0.24	1.6	2.0	70.0	52.5
Mathematics	146.0	7.1	143.0	11.3	-3.0	-0.18	1.6	1.4	64.0	39.0
Grade One, District: MSD Wayne Township Schools (N = 2)										
Word Analysis	135.0	18.4	161.5	3.5	26.5	1.13	1.1	2.5	45.5	61.5
Reading	126.0	28.3	106.0	0.0	-20.0	-0.56	K.5	K.0	37.5	7.0
Mathematics	126.0	0.0	140.0	7.1	14.0	1.58	K.5	1.3	27.0	34.5
Grade One, District: North Chicago Schools (N = 5)										
Word Analysis	127.0	13.7	136.6	19.9	9.6	0.51	K.6	1.2	27.0	25.0
Reading	137.8	18.3	146.6	13.8	8.8	0.49	1.2	1.6	25.0	40.0
Mathematics	129.4	9.8	126.6	10.4	-2.8	-0.25	K.7	K.6	33.0	13.0
Grade One, District: Paramount Unified (N = 4)										
Word Analysis	129.0	5.7	141.8	9.9	12.8	1.37	K.7	1.4	38.0	41.5
Reading	136.8	6.1	147.3	15.6	10.5	0.77	1.2	1.6	48.0	36.0
Mathematics	116.3	14.3	134.0	2.0	17.8	1.51	P.9	1.0	21.0	24.0
Grade One, District: Patterson Joint Unified (N = 2)										
Word Analysis	95.0	0.0	133.5	3.5	38.5	8.69	P.2	1.0	7.0	28.5
Reading	140.5	7.8	106.0	0.0	-34.5	-3.54	1.4	K.0	55.5	7.0
Mathematics	95.0	0.0	139.0	5.7	44.0	6.21	P.2	1.2	7.0	33.0
Grade One, District: San Bernardino (N = 2)										
Word Analysis	126.5	3.5	136.5	3.5	10.0	1.60	K.6	1.2	34.5	32.5
Reading	130.5	6.4	148.0	2.8	17.5	2.01	K.9	1.7	30.0	47.0
Mathematics	126.5	3.5	130.5	6.4	4.0	0.44	K.6	K.8	28.0	18.0
Grade One, District: South Bend (N = 36)										
Word Analysis	142.6	16.9	151.9	16.1	9.3	0.55	1.4	1.9	53.0	47.0
Reading	115.4	16.8	164.7	10.9	49.4	3.44	K.1	2.6	7.0	77.0
Mathematics	136.6	6.7	143.4	6.2	6.8	1.05	1.1	1.4	44.0	41.5

Table 22 continues on next page



Table 22, continued

ITBS Subtest	SS <i>M</i> Pre	SS <i>SD</i> Pre	SS <i>M</i> Post	SS <i>SD</i> Post	<i>M</i> Diff	E.S. ( <i>d</i> )	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade One, District: Stockton Unified ( <i>N</i> = 38)										
Word Analysis	129.1	16.8	145.7	21.5	16.7	0.85	K.7	1.6	36.0	40.0
Reading	127.7	22.0	146.1	19.6	18.4	0.87	K.6	1.6	17.0	45.5
Mathematics	124.2	17.3	124.8	32.9	0.6	0.02	K.3	K.4	29.0	10.0
Grade One, District: Tippecanoe School Corporation ( <i>N</i> = 8)										
Word Analysis	128.5	15.8	137.4	8.7	8.9	0.66	K.7	1.2	46.5	36.0
Reading	129.8	11.6	145.3	18.2	15.5	0.96	K.8	1.5	25.0	31.0
Mathematics	123.6	13.0	138.8	21.3	15.1	0.81	K.3	1.2	24.0	17.0
Grade One, District: Washington Community Schools ( <i>N</i> = 3)										
Word Analysis	119.7	12.7	140.7	6.1	21.0	1.69	K.2	1.3	27.0	40.0
Reading	140.7	3.1	136.3	10.2	-4.3	-0.46	1.4	1.1	56.0	15.0
Mathematics	125.3	3.5	131.7	6.8	6.3	0.93	K.4	K.9	25.0	25.0
Grade One, District: Waukegan Schools ( <i>N</i> = 7)										
Word Analysis	132.4	7.0	148.0	15.0	15.6	1.24	K.9	1.7	45.0	51.0
Reading	151.1	13.7	156.0	8.1	4.9	0.40	1.9	2.1	72.0	57.0
Mathematics	130.3	5.3	140.0	10.2	9.7	1.11	K.8	1.3	29.0	34.0

Table 23: Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade Two Students Served by Brain Hurricane within Districts, 2008-2009

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Two, District: Anderson Community Schools (N = 6)										
Word Analysis	145.3	11.1	153.3	15.2	8.0	0.56	1.5	2.0	35.0	40.0
Reading	147.8	8.8	156.0	15.9	8.2	0.59	1.7	2.1	40.5	57.0
Mathematics	140.8	12.6	154.7	20.8	13.8	0.74	1.3	2.1	27.5	44.0
Grade Two, District: Azusa (N = 12)										
Word Analysis	144.7	22.0	169.1	16.2	24.4	1.22	1.5	2.9	38.0	57.5
Reading	136.4	15.1	156.5	5.6	20.1	1.71	1.1	2.2	7.0	50.5
Mathematics	140.5	13.2	164.8	10.2	24.3	1.98	1.3	2.6	36.0	62.0
Grade Two, District: Chicago Schools (N = 178)										
Word Analysis	141.0	19.2	150.7	21.3	9.7	0.48	1.3	1.9	31.0	40.0
Reading	142.4	18.3	149.7	17.0	7.3	0.41	1.4	1.8	28.0	40.0
Mathematics	138.2	14.4	149.0	16.7	10.9	0.70	1.2	1.7	27.0	38.0
Grade Two, District: Corona Norco (N = 3)										
Word Analysis	129.7	27.1	173.0	17.3	43.3	1.52	K.8	3.1	25.0	56.0
Reading	140.0	12.5	149.0	23.3	9.0	0.38	1.3	1.7	31.0	32.0
Mathematics	146.3	2.9	156.3	14.4	10.0	0.77	1.6	2.1	38.0	38.0
Grade Two, District: East Noble School Corporation (N = 10)										
Word Analysis	155.0	14.9	158.1	12.2	3.1	0.22	2.1	2.2	47.0	47.0
Reading	136.1	13.6	146.3	19.0	10.2	0.59	1.1	1.6	27.0	20.0
Mathematics	148.0	8.3	152.3	9.0	4.3	0.47	1.7	1.9	42.0	48.5
Grade Two, District: Elkhart (N = 35)										
Word Analysis	153.6	17.2	160.9	17.5	7.3	0.42	2.0	2.4	45.0	52.0
Reading	154.3	14.8	156.5	13.3	2.2	0.15	2.0	2.1	40.0	45.0
Mathematics	150.9	12.5	154.0	10.3	3.1	0.27	1.9	2.0	42.0	46.0
Grade Two, District: Escondido Union (N = 3)										
Word Analysis	157.0	1.7	181.0	3.5	24.0	6.99	2.2	3.5	49.0	69.0
Reading	151.0	6.1	157.0	5.6	6.0	0.82	1.9	2.2	36.0	49.0
Mathematics	149.3	13.6	160.0	18.2	10.7	0.53	1.7	2.3	42.0	42.0

Table 23 continues on next page

Table 23, continued

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Two, District: Fontana (N = 7)										
Word Analysis	147.0	16.5	172.4	19.3	25.4	1.32	1.6	3.0	31.0	64.0
Reading	153.1	14.3	160.7	11.7	7.6	0.54	2.0	2.4	49.0	58.0
Mathematics	142.0	13.3	148.0	14.6	6.0	0.40	1.3	1.7	34.0	51.0
Grade Two, District: Fort Wayne Community Schools (N = 30)										
Word Analysis	158.5	19.5	165.9	21.5	7.4	0.35	2.3	2.7	49.0	59.0
Reading	156.9	15.3	161.6	17.5	4.7	0.28	2.2	2.4	45.5	54.0
Mathematics	150.0	11.6	159.4	12.3	9.5	0.78	1.8	2.3	42.0	51.0
Grade Two, District: Frankfort Community Schools (N = 3)										
Word Analysis	161.7	15.3	172.7	6.0	11.0	0.75	2.5	3.1	49.0	64.0
Reading	158.7	13.3	164.3	9.1	5.7	0.40	2.3	2.5	43.0	58.0
Mathematics	149.3	20.6	157.7	15.0	8.3	0.37	1.7	2.2	27.0	51.0
Grade Two, District: Gary Community Schools (N = 15)										
Word Analysis	149.1	19.2	147.8	12.9	-1.3	-0.08	1.7	1.7	33.0	35.0
Reading	148.8	14.4	149.4	11.1	0.6	0.05	1.7	1.7	32.0	38.0
Mathematics	146.8	11.2	154.7	19.4	7.9	0.48	1.6	2.1	38.0	42.0
Grade Two, District: Goshen Community Schools (N = 14)										
Word Analysis	148.6	24.9	161.7	12.6	13.1	0.65	1.7	2.5	43.5	54.0
Reading	149.0	14.5	156.5	10.3	7.5	0.58	1.7	2.2	40.0	49.0
Mathematics	141.4	14.1	151.4	12.4	10.0	0.73	1.3	1.9	32.0	40.0
Grade Two, District: Hammond (N = 17)										
Word Analysis	151.9	17.6	161.6	20.0	9.7	0.50	1.9	2.5	40.0	45.0
Reading	153.5	6.8	158.9	13.3	5.4	0.50	2.0	2.3	46.0	52.0
Mathematics	148.8	7.8	155.8	7.8	7.0	0.88	1.7	2.1	38.0	46.0
Grade Two, District: Huntington School Corporation (N = 8)										
Word Analysis	134.9	6.3	152.9	16.5	18.0	1.37	1.1	2.0	25.0	41.5
Reading	138.8	7.2	148.5	10.8	9.8	1.01	1.3	1.7	25.0	35.5
Mathematics	143.5	8.4	154.8	9.2	11.3	1.21	1.5	2.1	29.5	48.5

Table 23 continues on next page

Table 23, continued

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Two, District: La Mesa - Spring Valley (N = 1)										
Word Analysis	100.0	.	159.0	.	59.0	na	P.4	2.3	7.0	52.0
Reading	128.0	.	137.0	.	9.0	na	K.6	1.2	7.0	19.0
Mathematics	125.0	.	130.0	.	5.0	na	K.6	K.8	7.0	13.0
Grade Two, District: Lodi Unified (N = 5)										
Word Analysis	158.4	34.4	162.4	18.8	4.0	0.13	2.2	2.5	64.0	49.0
Reading	155.8	27.0	167.2	7.0	11.4	0.52	2.1	2.7	63.0	63.0
Mathematics	153.4	31.9	154.6	31.9	1.2	0.03	2.0	2.1	58.0	58.0
Grade Two, District: Lynwood (N = 13)										
Word Analysis	154.5	26.9	163.7	24.0	9.2	0.35	2.1	2.6	49.0	52.0
Reading	152.6	13.0	158.3	15.3	5.7	0.39	2.0	2.2	43.0	49.0
Mathematics	145.9	11.9	157.5	12.3	11.6	0.93	1.6	2.2	32.0	51.0
Grade Two, District: Montebello Unified (N = 25)										
Word Analysis	139.7	19.0	155.2	16.5	15.5	0.86	1.3	2.1	31.0	40.0
Reading	145.5	11.0	154.2	8.9	8.7	0.85	1.6	2.0	36.0	46.0
Mathematics	136.9	17.4	148.4	17.6	11.5	0.65	1.1	1.7	27.0	42.0
Grade Two, District: MSD Lawrence Township Schools (N = 7)										
Word Analysis	147.9	6.9	151.3	13.6	3.4	0.30	1.7	1.9	40.0	45.0
Reading	134.6	6.9	136.0	9.4	1.4	0.16	1.1	1.1	7.0	26.0
Mathematics	150.0	6.8	168.4	7.8	18.4	2.34	1.8	2.8	46.0	75.0
Grade Two, District: MSD Perry Township Schools (N = 1)										
Word Analysis	140.0	.	163.0	.	23.0	na	1.3	2.5	31.0	56.0
Reading	142.0	.	144.0	.	2.0	na	1.4	1.5	26.0	31.0
Mathematics	140.0	.	157.0	.	17.0	na	1.2	2.2	27.0	51.0
Grade Two, District: MSD Pike Township Schools (N = 1)										
Word Analysis	100.0	.	148.0	.	48.0	na	P.4	1.7	7.0	40.0
Reading	130.0	.	135.0	.	5.0	na	K.8	1.1	7.0	15.0
Mathematics	140.0	.	157.0	.	17.0	na	1.2	2.2	27.0	51.0

Table 23 continues on next page

Table 23, continued

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Two, District: MSD Wayne Township Schools (N = 7)										
Word Analysis	152.3	13.8	166.0	15.0	13.7	0.88	1.9	2.7	49.0	64.0
Reading	154.6	12.3	163.7	15.1	9.1	0.62	2.1	2.5	40.0	58.0
Mathematics	139.9	7.2	156.3	14.1	16.4	1.36	1.2	2.1	27.0	38.0
Grade Two, District: North Chicago Schools (N = 16)										
Word Analysis	145.3	21.3	158.7	17.6	13.4	0.67	1.5	2.3	36.5	47.0
Reading	141.5	16.3	163.1	17.4	21.6	1.25	1.4	2.5	27.0	51.0
Mathematics	150.2	12.7	157.6	15.0	7.4	0.52	1.8	2.2	34.0	58.0
Grade Two, District: Paramount Unified (N = 2)										
Word Analysis	150.0	8.5	182.5	14.8	32.5	1.52	1.8	3.7	42.0	72.5
Reading	148.0	8.5	165.0	12.7	17.0	0.89	1.7	2.6	36.0	61.0
Mathematics	160.5	17.7	158.0	5.7	-2.5	-0.11	2.4	2.2	56.5	52.0
Grade Two, District: Patterson Joint Unified (N = 3)										
Word Analysis	100.0	0.0	141.3	2.3	41.3	20.20	P.4	1.3	7.0	31.0
Reading	138.3	4.6	135.3	5.5	-3.0	-0.47	1.2	1.1	25.0	15.0
Mathematics	162.0	0.0	181.0	0.0	19.0	na	2.4	3.5	58.0	85.0
Grade Two, District: San Bernardino (N = 5)										
Word Analysis	146.8	9.4	155.4	12.8	8.6	0.69	1.6	2.1	38.0	49.0
Reading	153.4	6.6	156.2	10.7	2.8	0.28	2.0	2.1	46.0	49.0
Mathematics	143.4	16.9	152.4	16.8	9.0	0.48	1.4	1.9	32.0	38.0
Grade Two, District: Santa Ana Unified (N = 3)										
Word Analysis	114.0	24.2	161.7	15.0	47.7	1.89	P.9	2.5	7.0	45.0
Reading	131.3	4.7	140.7	7.5	9.3	1.19	K.9	1.4	10.0	25.0
Mathematics	135.0	8.7	148.0	5.2	13.0	1.45	1.0	1.7	13.0	34.0
Grade Two, District: South Bay Union (N = 2)										
Word Analysis	100.0	0.0	185.0	0.0	85.0	na	P.4	3.8	7.0	75.0
Reading	126.0	12.7	127.0	4.2	1.0	0.06	K.5	K.6	11.0	7.0
Mathematics	140.0	0.0	157.0	0.0	17.0	na	1.2	2.2	27.0	51.0

*Table 23 continues on next page*

Table 23, continued

ITBS Subtest	SS <i>M</i> Pre	SS <i>SD</i> Pre	SS <i>M</i> Post	SS <i>SD</i> Post	<i>M</i> Diff	E.S. ( <i>d</i> )	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Two, District: South Bend ( <i>N</i> = 28)										
Word Analysis	151.7	16.0	160.1	17.9	8.4	0.49	1.9	2.4	38.0	47.0
Reading	151.2	11.5	159.0	13.8	7.8	0.60	1.9	2.3	35.0	52.0
Mathematics	145.8	13.3	155.3	10.5	9.5	0.78	1.6	2.1	32.0	46.0
Grade Two, District: Stockton Unified ( <i>N</i> = 25)										
Word Analysis	133.0	17.1	153.2	14.8	20.1	1.24	1.0	2.0	22.0	45.0
Reading	135.4	16.9	151.0	15.7	15.6	0.94	1.1	1.9	19.0	43.0
Mathematics	129.6	15.3	129.7	22.6	0.1	0.00	K.8	K.8	7.0	20.0
Grade Two, District: Tippecanoe School Corporation ( <i>N</i> = 7)										
Word Analysis	149.4	19.8	147.7	11.1	-1.7	-0.10	1.7	1.7	42.0	45.0
Reading	147.3	8.8	159.3	12.0	12.0	1.06	1.6	2.3	36.0	49.0
Mathematics	143.3	7.7	149.4	12.8	6.1	0.54	1.4	1.7	32.0	46.0
Grade Two, District: Washington Community Schools ( <i>N</i> = 7)										
Word Analysis	137.4	29.1	154.0	24.5	16.6	0.57	1.2	2.0	35.0	42.0
Reading	147.6	14.5	147.0	14.0	-0.6	-0.04	1.7	1.6	32.0	45.0
Mathematics	144.0	6.0	152.3	11.4	8.3	0.85	1.5	1.9	32.0	46.0
Grade Two, District: Waukegan Schools ( <i>N</i> = 9)										
Word Analysis	141.3	8.3	155.7	8.2	14.3	1.66	1.3	2.1	35.0	49.0
Reading	142.9	12.5	159.0	8.9	16.1	1.41	1.4	2.3	32.0	52.0
Mathematics	145.2	11.0	149.4	9.2	4.2	0.40	1.5	1.7	38.0	46.0

Table 24: Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade Three Students Served by Brain Hurricane within Districts, 2008-2009

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Three, District: Anderson Community Schools (N = 1)										
Reading	195.0	.	213.0	.	18.0	na	4.4	5.7	69.0	74.0
Mathematics	240.0	.	240.0	.	0.0	na	7.8	7.8	99.0	99.0
Grade Three, District: Azusa (N = 3)										
Reading	134.0	14.0	182.3	8.1	48.3	3.37	1.0	3.6	7.0	51.0
Mathematics	155.0	0.0	240.0	0.0	85.0	na	2.0	7.8	27.0	99.0
Grade Three, District: Chicago Schools (N = 134)										
Reading	157.2	28.6	166.5	28.2	9.3	0.32	2.2	2.7	37.0	33.0
Mathematics	164.7	20.2	181.8	30.4	17.1	0.66	2.5	3.5	34.0	40.0
Grade Three, District: Chino Valley Unified (N = 1)										
Reading	148.0	.	148.0	.	0.0	na	1.7	1.7	20.0	10.0
Mathematics	172.0	.	179.0	.	7.0	na	3.0	3.3	46.0	44.0
Grade Three, District: Corona Norco (N = 3)										
Reading	160.7	7.8	167.3	10.3	6.7	0.58	2.4	2.7	37.0	36.0
Mathematics	181.7	50.8	202.0	34.7	20.3	0.37	3.5	4.9	31.0	59.0
Grade Three, District: East Noble School Corporation (N = 1)										
Reading	0.0	.	0.0	.	0.0	na	.	.	.	.
Mathematics	222.0	.	240.0	.	18.0	na	6.4	7.8	99.0	99.0
Grade Three, District: El Monte (N = 1)										
Reading	160.0	.	173.0	.	13.0	na	2.3	3.0	34.0	39.0
Mathematics	200.0	.	240.0	.	40.0	na	4.8	7.8	77.0	99.0
Grade Three, District: Elkhart (N = 30)										
Reading	167.7	12.6	172.5	13.0	4.8	0.37	2.8	3.0	40.0	39.0
Mathematics	191.4	29.6	202.1	30.6	10.7	0.35	4.1	4.9	66.0	59.0
Grade Three, District: Escondido Union (N = 3)										
Reading	162.0	5.6	159.7	7.5	-2.3	-0.28	2.4	2.3	37.0	25.0
Mathematics	155.7	4.0	163.7	9.8	8.0	0.85	2.1	2.5	31.0	22.0

Table 24 continues on next page

Table 24, continued

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. ( <i>d</i> )	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Three, District: Fontana ( <i>N</i> = 3)										
Reading	166.3	5.8	182.0	5.3	15.7	2.26	2.7	3.6	37.0	49.0
Mathematics	208.7	39.7	234.0	10.4	25.3	0.70	5.4	7.4	99.0	99.0
Grade Three, District: Fort Wayne Community Schools ( <i>N</i> = 11)										
Reading	179.8	25.6	147.5	75.6	-32.4	-0.55	3.4	1.6	54.0	46.0
Mathematics	196.5	25.3	226.2	18.4	29.6	1.29	4.5	6.7	71.0	99.0
Grade Three, District: Gary Community Schools ( <i>N</i> = 6)										
Reading	160.7	7.9	177.2	21.0	16.5	0.96	2.4	3.3	35.5	38.5
Mathematics	167.5	8.3	192.7	40.2	25.2	0.80	2.8	4.3	41.0	46.5
Grade Three, District: Goshen Community Schools ( <i>N</i> = 4)										
Reading	165.0	24.3	171.5	25.2	6.5	0.23	2.6	3.0	32.0	34.5
Mathematics	188.0	36.5	195.0	34.6	7.0	0.17	4.0	4.4	53.5	55.5
Grade Three, District: Hammond ( <i>N</i> = 9)										
Reading	181.4	26.6	158.9	63.4	-22.6	-0.44	3.5	2.3	54.0	33.0
Mathematics	212.7	34.2	216.9	35.0	4.2	0.12	5.7	6.0	99.0	99.0
Grade Three, District: Highland ( <i>N</i> = 1)										
Reading	156.0	.	165.0	.	9.0	na	2.1	2.6	30.0	32.0
Mathematics	164.0	.	182.0	.	18.0	na	2.5	3.5	38.0	47.0
Grade Three, District: Huntington School Corporation ( <i>N</i> = 10)										
Reading	160.2	13.5	178.1	11.7	17.9	1.36	2.3	3.3	30.0	45.0
Mathematics	180.6	23.4	202.6	30.8	22.0	0.77	3.5	4.9	53.5	61.5
Grade Three, District: La Mesa - Spring Valley ( <i>N</i> = 2)										
Reading	190.5	6.4	173.5	14.8	-17.0	-0.84	4.1	3.1	65.0	39.0
Mathematics	158.0	4.2	166.5	7.8	8.5	0.77	2.2	2.7	30.5	31.0
Grade Three, District: Lafayette School Corporation ( <i>N</i> = 1)										
Reading	163.0	.	170.0	.	7.0	na	2.5	2.9	37.0	36.0
Mathematics	172.0	.	186.0	.	14.0	na	3.0	3.8	46.0	51.0

Table 24 continues on next page



Table 24, continued

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Three, District: Lodi Unified (N = 1)										
Reading	156.0	.	156.0	.	0.0	na	2.1	2.1	30.0	20.0
Mathematics	143.0	.	158.0	.	15.0	na	1.4	2.2	13.0	22.0
Grade Three, District: Lynwood (N = 11)										
Reading	168.4	15.1	173.9	12.3	5.5	0.39	2.8	3.1	44.0	39.0
Mathematics	193.9	26.4	215.1	29.1	21.2	0.73	4.4	5.9	66.0	85.0
Grade Three, District: Montebello Unified (N = 10)										
Reading	143.0	54.6	163.0	63.1	20.0	0.32	1.5	2.5	27.0	42.5
Mathematics	177.0	27.3	211.3	28.9	34.3	1.17	3.2	5.5	47.5	74.5
Grade Three, District: MSD Lawrence Township Schools (N = 3)										
Reading	165.3	8.6	167.7	4.0	2.3	0.28	2.6	2.8	41.0	36.0
Mathematics	198.0	21.2	195.7	24.0	-2.3	-0.08	4.6	4.5	66.0	54.0
Grade Three, District: MSD Perry Township Schools (N = 3)										
Reading	177.3	11.0	193.7	15.5	16.3	0.97	3.3	4.3	56.0	63.0
Mathematics	213.7	31.3	219.7	35.2	6.0	0.14	5.8	6.2	99.0	99.0
Grade Three, District: MSD Pike Township Schools (N = 1)										
Reading	165.0	.	167.0	.	2.0	na	2.6	2.7	39.0	33.0
Mathematics	155.0	.	164.0	.	9.0	na	2.0	2.5	27.0	29.0
Grade Three, District: MSD Wayne Township Schools (N = 4)										
Reading	155.8	8.2	176.8	9.0	21.0	2.13	2.1	3.3	27.5	41.5
Mathematics	168.0	15.1	207.8	24.3	39.8	1.71	2.8	5.3	45.0	68.0
Grade Three, District: North Chicago Schools (N = 12)										
Reading	163.5	13.6	181.6	20.5	18.1	1.00	2.6	3.6	39.0	45.0
Mathematics	189.2	27.5	201.0	30.2	11.8	0.40	4.0	4.8	56.0	51.0
Grade Three, District: Paramount Unified (N = 2)										
Reading	88.0	124.5	196.5	12.0	108.5	0.69	K.0	4.6	29.0	60.0
Mathematics	201.5	10.6	240.0	0.0	38.5	2.90	4.9	7.8	79.0	99.0

*Table 24 continues on next page*

Table 24, continued

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Three, District: Patterson Joint Unified (N = 2)										
Reading	166.5	4.9	175.5	17.7	9.0	0.39	2.7	3.2	40.5	41.0
Mathematics	178.0	43.8	207.5	46.0	29.5	0.37	3.3	5.3	52.0	69.5
Grade Three, District: Santa Ana Unified (N = 18)										
Reading	164.8	14.1	175.0	16.7	10.2	0.65	2.6	3.1	37.0	42.5
Mathematics	175.3	21.5	198.3	30.9	23.0	0.85	3.1	4.6	41.0	55.5
Grade Three, District: South Bay Union (N = 1)										
Reading	186.0	.	138.0	.	-48.0	na	3.9	1.2	61.0	7.0
Mathematics	200.0	.	168.0	.	-32.0	na	4.8	2.8	77.0	32.0
Grade Three, District: South Bend (N = 11)										
Reading	178.5	18.9	181.1	12.3		0.16	3.3	3.5	59.0	49.0
Mathematics	184.5	22.7	200.7	24.1		0.67	3.7	4.8	58.0	64.0
Grade Three, District: Stockton Unified (N = 13)										
Reading	170.6	21.5	169.2	53.1	2.6	-0.03	2.9	2.8	37.0	46.0
Mathematics	182.5	29.6	212.0	28.3	16.2	0.99	3.6	5.6	49.0	72.0
Grade Three, District: Tippecanoe School Corporation (N = 5)										
Reading	162.2	18.5	140.2	78.8	-1.5	-0.35	2.4	1.3	37.0	39.0
Mathematics	177.0	15.5	221.2	23.7	29.5	1.99	3.2	6.3	58.0	85.0
Grade Three, District: Washington Community Schools (N = 4)										
Reading	124.8	83.6	172.0	7.1	-22.0	0.69	K.5	3.0	34.0	38.5
Mathematics	187.5	16.1	212.3	32.4	44.2	0.84	4.0	5.6	60.0	76.5
Grade Three, District: Waukegan Schools (N = 12)										
Reading	167.8	13.3	175.2	15.9	47.3	0.48	2.8	3.1	42.5	44.0
Mathematics	170.9	15.1	207.8	29.9	24.8	1.50	2.9	5.3	50.0	72.0

Table 25: Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade Four Students Served by Brain Hurricane within Districts, 2008-2009

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Four, District: Anderson Community Schools (N = 1)										
Reading	179.0	.	188.0	.	9.0	na	3.4	4.0	40.0	40.0
Mathematics	190.0	.	209.0	.	19.0	na	4.1	5.4	49.0	58.0
Grade Four, District: Azusa (N = 10)										
Reading	156.7	18.5	201.8	17.2	45.1	2.42	2.2	4.9	21.5	43.0
Mathematics	164.6	28.9	234.2	13.3	69.6	2.97	2.5	7.4	18.5	81.0
Grade Four, District: Chicago Schools (N = 144)										
Reading	173.4	18.4	180.1	20.1	6.7	0.35	3.0	3.4	38.0	37.0
Mathematics	192.7	33.2	211.3	32.2	18.6	0.57	4.3	5.5	49.0	67.0
Grade Four, District: Chino Valley Unified (N = 3)										
Reading	170.3	19.5	191.0	15.6	20.7	0.93	2.9	4.1	40.0	50.0
Mathematics	197.3	41.1	226.7	23.1	29.3	0.70	4.5	6.7	53.0	81.0
Grade Four, District: Corona Norco (N = 5)										
Reading	169.0	3.1	176.2	8.0	7.2	1.07	2.8	3.2	32.0	30.0
Mathematics	185.4	31.2	188.8	29.8	3.4	0.10	3.7	4.0	35.0	34.0
Grade Four, District: East Noble School Corporation (N = 2)										
Reading	180.5	10.6	182.5	4.9	2.0	0.14	3.5	3.7	41.0	36.0
Mathematics	220.0	28.3	201.5	10.6	-18.5	-0.49	6.2	4.9	79.0	51.0
Grade Four, District: El Monte (N = 3)										
Reading	154.3	14.6	160.7	22.3	6.3	0.27	2.0	2.4	10.0	7.0
Mathematics	180.0	11.1	165.0	26.2	-15.0	-0.59	3.4	2.5	41.0	10.0
Grade Four, District: Elkhart (N = 19)										
Reading	176.8	16.8	184.1	17.0	7.3	0.42	3.3	3.7	40.0	34.0
Mathematics	208.0	32.7	211.0	33.9	3.0	0.09	5.3	5.5	53.0	67.0
Grade Four, District: Escondido Union (N = 1)										
Reading	173.0	.	173.0	.	0.0	na	3.0	3.0	35.0	27.0
Mathematics	161.0	.	158.0	.	-3.0	na	2.3	2.2	20.0	10.0

Table 25 continues on next page

Table 25, continued

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Four, District: Fontana (N = 2)										
Reading	171.5	2.1	180.0	1.4	8.5	2.66	3.0	3.4	33.5	33.5
Mathematics	184.5	7.8	213.0	38.2	28.5	0.58	3.7	5.7	44.0	59.5
Grade Four, District: Fort Wayne Community Schools (N = 30)										
Reading	178.8	36.5	177.8	63.5	-0.9	-0.02	3.4	3.3	44.5	46.0
Mathematics	224.1	23.4	231.1	19.4	7.0	0.32	6.5	7.1	99.0	81.0
Grade Four, District: Frankfort Community Schools (N = 1)										
Reading	186.0	.	205.0	.	19.0	na	3.9	5.1	45.0	54.0
Mathematics	135.0	.	240.0	.	105.0	na	1.0	7.8	7.0	81.0
Grade Four, District: Gary Community Schools (N = 7)										
Reading	176.4	16.0	187.1	22.5	10.7	0.51	3.2	3.9	45.0	43.0
Mathematics	210.1	33.1	225.7	24.5	15.6	0.50	5.5	6.7	77.0	81.0
Grade Four, District: Goshen Community Schools (N = 5)										
Reading	157.0	9.2	156.6	6.8	-0.4	-0.04	2.2	2.2	10.0	7.0
Mathematics	174.6	14.3	164.0	42.9	-10.6	-0.30	3.1	2.5	35.0	7.0
Grade Four, District: Hammond (N = 13)										
Reading	182.7	14.2	187.8	16.3	5.1	0.32	3.7	4.0	47.0	39.0
Mathematics	223.2	26.5	231.1	15.3	7.9	0.36	6.5	7.1	99.0	81.0
Grade Four, District: Huntington School Corporation (N = 11)										
Reading	177.7	15.6	195.9	17.9	18.2	1.04	3.3	4.5	41.0	46.0
Mathematics	211.8	29.8	225.4	29.3	13.5	0.44	5.6	6.6	67.0	81.0
Grade Four, District: La Mesa - Spring Valley (N = 2)										
Reading	146.5	7.8	160.0	0.0	13.5	1.38	1.6	2.3	8.5	13.0
Mathematics	163.0	7.1	172.0	19.8	9.0	0.34	2.4	3.0	22.5	24.0
Grade Four, District: Lynwood (N = 17)										
Reading	178.2	10.0	183.9	12.3	5.6	0.49	3.3	3.7	40.0	37.0
Mathematics	221.9	24.4	226.6	21.8	4.7	0.20	6.4	6.7	99.0	81.0

Table 25 continues on next page

Table 25, continued

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. ( <i>d</i> )	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Four, District: Montebello Unified ( <i>N</i> = 16)										
Reading	154.4	11.6	169.8	15.4	15.4	1.10	2.0	2.9	13.5	19.0
Mathematics	161.9	24.3	191.2	40.5	29.3	0.85	2.4	4.1	15.0	35.0
Grade Four, District: MSD Lawrence Township Schools ( <i>N</i> = 3)										
Reading	176.0	20.8	178.3	13.0	2.3	0.11	3.2	3.3	47.0	33.0
Mathematics	207.7	41.4	217.3	39.3	9.7	0.19	5.3	6.0	77.0	81.0
Grade Four, District: MSD Perry Township Schools ( <i>N</i> = 1)										
Reading	186.0	.	224.0	.	38.0	na	3.9	6.6	45.0	68.0
Mathematics	240.0	.	240.0	.	0.0	na	7.8	7.8	99.0	81.0
Grade Four, District: MSD Pike Township Schools ( <i>N</i> = 4)										
Reading	170.5	12.1	174.0	11.8	3.5	0.25	2.9	3.1	30.5	24.5
Mathematics	192.0	39.8	205.8	30.4	13.8	0.34	4.2	5.2	45.5	52.5
Grade Four, District: MSD Wayne Township Schools ( <i>N</i> = 2)										
Reading	185.0	8.5	198.0	9.9	13.0	0.80	3.8	4.8	44.5	48.5
Mathematics	213.0	38.2	240.0	0.0	27.0	0.56	5.7	7.8	72.0	81.0
Grade Four, District: North Chicago Schools ( <i>N</i> = 1)										
Reading	163.0	.	213.0	.	50.0	na	2.5	5.7	24.0	60.0
Mathematics	172.0	.	190.0	.	18.0	na	3.0	4.1	32.0	41.0
Grade Four, District: Paramount Unified ( <i>N</i> = 1)										
Reading	184.0	.	191.0	.	7.0	na	3.7	4.1	44.0	43.0
Mathematics	240.0	.	240.0	.	0.0	na	7.8	7.8	99.0	81.0
Grade Four, District: San Bernardino ( <i>N</i> = 2)										
Reading	182.0	8.5	191.5	4.9	9.5	0.77	3.6	4.2	42.5	43.0
Mathematics	215.0	35.4	240.0	0.0	25.0	0.56	5.9	7.8	74.0	81.0
Grade Four, District: Santa Ana Unified ( <i>N</i> = 15)										
Reading	168.4	18.1	177.3	25.9	8.9	0.39	2.8	3.3	29.0	27.0
Mathematics	181.5	30.2	203.2	29.2	21.7	0.71	3.5	4.9	35.0	44.0

*Table 25 continues on next page*

Table 25, continued

ITBS Subtest	SS <i>M</i> Pre	SS <i>SD</i> Pre	SS <i>M</i> Post	SS <i>SD</i> Post	<i>M</i> Diff	E.S. ( <i>d</i> )	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Four, District: South Bend ( <i>N</i> = 15)										
Reading	178.8	11.4	186.1	8.5	7.3	0.70	3.4	3.9	38.0	39.0
Mathematics	197.5	31.7	212.9	27.7	15.4	0.50	4.5	5.7	45.0	67.0
Grade Four, District: Stockton Unified ( <i>N</i> = 15)										
Reading	159.3	49.9	177.6	28.7	18.3	0.44	2.3	3.3	24.0	24.0
Mathematics	185.6	34.5	208.3	28.8	22.7	0.69	3.8	5.3	45.0	58.0
Grade Four, District: Tippecanoe School Corporation ( <i>N</i> = 4)										
Reading	185.3	20.4	195.3	21.8	10.0	0.41	3.8	4.4	39.5	42.0
Mathematics	212.5	37.3	178.5	50.7	-34.0	-0.66	5.7	3.3	83.0	28.0
Grade Four, District: Washington Community Schools ( <i>N</i> = 8)										
Reading	176.0	24.4	184.0	21.9	8.0	0.33	3.2	3.7	35.0	40.0
Mathematics	216.8	30.2	213.8	37.9	-3.0	-0.08	6.0	5.8	88.0	81.0
Grade Four, District: Waukegan Schools ( <i>N</i> = 2)										
Reading	179.0	22.6	176.5	40.3	-2.5	-0.04	3.4	3.3	38.5	30.5
Mathematics	176.0	25.5	202.0	53.7	26.0	0.35	3.2	4.9	35.0	49.0

Table 26: Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade Five Students Served by Brain Hurricane within Districts, 2008-2009

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Five, District: Anderson Community Schools (N = 4)										
Reading	197.8	13.9	202.0	28.0	4.3	0.17	4.6	4.9	41.0	44.5
Mathematics	235.8	20.3	232.0	28.6	-3.8	-0.13	7.5	7.2	74.0	64.0
Grade Five, District: Azusa (N = 1)										
Reading	164.0	.	222.0	.	58.0	na	2.6	6.4	15.0	55.0
Mathematics	190.0	.	253.0	.	63.0	na	4.1	9.1	37.0	75.0
Grade Five, District: Chicago Schools (N = 102)										
Reading	183.3	17.8	192.0	21.2	8.7	0.44	3.7	4.2	33.0	36.0
Mathematics	202.4	32.3	219.0	38.6	16.5	0.46	4.9	6.2	41.0	47.0
Grade Five, District: Corona Norco (N = 2)										
Reading	192.0	15.6	213.0	19.8	21.0	0.67	4.2	5.7	40.0	49.5
Mathematics	202.0	0.0	247.5	21.9	45.5	1.66	4.9	8.6	47.0	73.5
Grade Five, District: Downey Unified (N = 5)										
Reading	189.2	20.5	208.0	13.8	18.8	0.97	4.0	5.3	32.0	47.0
Mathematics	220.8	17.6	224.4	25.5	3.6	0.15	6.3	6.5	60.0	53.0
Grade Five, District: East Noble School Corporation (N = 1)										
Reading	195.0	.	210.0	.	15.0	na	4.4	5.4	42.0	47.0
Mathematics	232.0	.	232.0	.	0.0	na	7.2	7.2	69.0	62.0
Grade Five, District: El Monte (N = 3)										
Reading	186.0	11.4	227.7	40.6	41.7	1.11	3.9	6.9	32.0	74.0
Mathematics	196.3	24.0	258.7	52.5	62.3	1.22	4.5	9.7	51.0	99.0
Grade Five, District: Elkhart (N = 20)										
Reading	185.4	21.3	191.2	23.6	5.8	0.25	3.8	4.1	34.0	28.0
Mathematics	220.2	36.1	227.3	37.4	7.2	0.19	6.2	6.7	57.0	50.0
Grade Five, District: Escondido Union (N = 1)										
Reading	199.0	.	191.0	.	-8.0	na	4.7	4.1	45.0	34.0
Mathematics	253.0	.	246.0	.	-7.0	na	9.1	8.4	85.0	71.0

Table 26 continues on next page

Table 26, continued

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Five, District: Fontana (N = 1)										
Reading	187.0	.	181.0	.	-6.0	na	3.7	3.5	36.0	26.0
Mathematics	223.0	.	239.0	.	16.0	na	6.5	7.7	63.0	66.0
Grade Five, District: Fort Wayne Community Schools (N = 18)										
Reading	184.6	50.8	171.1	79.8	-13.4	-0.20	3.8	2.9	36.0	40.0
Mathematics	225.3	29.3	249.0	30.5	23.7	0.78	6.6	8.7	60.0	75.0
Grade Five, District: Frankfort Community Schools (N = 1)										
Reading	206.0	.	227.0	.	21.0	na	5.2	6.8	51.0	59.0
Mathematics	239.0	.	289.0	.	50.0	na	7.7	13+	75.0	99.0
Grade Five, District: Gary Community Schools (N = 5)										
Reading	197.8	21.8	207.2	7.3	9.4	0.52	4.6	5.3	42.0	44.0
Mathematics	235.0	35.5	231.2	17.9	-3.8	-0.12	7.5	7.1	69.0	66.0
Grade Five, District: Hammond (N = 10)										
Reading	192.1	21.0	206.7	19.3	14.6	0.69	4.2	5.3	37.0	44.5
Mathematics	219.7	34.8	243.3	37.9	23.6	0.62	6.2	8.1	60.0	66.0
Grade Five, District: Highland (N = 2)										
Reading	212.0	8.5	210.0	5.7	-2.0	-0.16	5.6	5.4	55.5	47.0
Mathematics	246.0	0.0	269.0	8.5	23.0	2.16	8.4	10.9	80.0	89.0
Grade Five, District: Huntington School Corporation (N = 9)										
Reading	186.4	26.5	205.8	26.7	19.3	0.69	3.9	5.2	20.0	44.0
Mathematics	201.4	21.7	224.0	40.4	22.6	0.66	4.8	6.5	47.0	50.0
Grade Five, District: La Mesa - Spring Valley (N = 2)										
Reading	195.0	5.7	193.5	13.4	-1.5	-0.08	4.4	4.3	42.5	35.0
Mathematics	198.5	34.6	210.5	40.3	12.0	0.18	4.7	5.5	43.0	45.5
Grade Five, District: Lynwood (N = 6)										
Reading	191.0	23.3	195.2	8.1	4.2	0.22	4.1	4.4	42.5	38.0
Mathematics	238.8	27.8	252.5	24.5	13.7	0.48	7.7	9.1	66.0	71.0

Table 26 continues on next page



Table 26, continued

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Five, District: Montebello Unified (N = 6)										
Reading	172.2	9.4	196.5	37.9	24.3	0.81	3.0	4.6	18.5	33.0
Mathematics	208.5	41.2	225.8	53.1	17.3	0.34	5.4	6.7	42.0	47.0
Grade Five, District: MSD Lawrence Township Schools (N = 3)										
Reading	198.0	33.3	221.3	29.2	23.3	0.59	4.6	6.3	34.0	44.0
Mathematics	235.7	51.6	260.0	50.2	24.3	0.38	7.5	9.8	69.0	99.0
Grade Five, District: MSD Pike Township Schools (N = 2)										
Reading	173.5	19.1	195.0	11.3	21.5	0.77	3.1	4.4	23.0	36.5
Mathematics	220.5	9.2	233.5	27.6	13.0	0.36	6.3	7.4	61.5	62.5
Grade Five, District: MSD Wayne Township Schools (N = 1)										
Reading	184.0	.	195.0	.	11.0	na	3.7	4.4	34.0	36.0
Mathematics	210.0	.	246.0	.	36.0	na	5.5	8.4	54.0	71.0
Grade Five, District: North Chicago Schools (N = 5)										
Reading	187.4	11.5	203.2	20.3	15.8	0.86	3.9	5.0	34.0	42.0
Mathematics	195.2	20.1	212.2	21.6	17.0	0.74	4.4	5.6	51.0	53.0
Grade Five, District: San Bernardino (N = 1)										
Reading	203.0	.	222.0	.	19.0	na	5.0	6.4	48.0	55.0
Mathematics	253.0	.	289.0	.	36.0	na	9.1	13+	85.0	99.0
Grade Five, District: Santa Ana Unified (N = 5)										
Reading	188.2	13.8	198.2	24.5	10.0	0.45	4.0	4.6	34.0	44.0
Mathematics	208.0	33.3	239.0	40.9	31.0	0.75	5.3	7.7	57.0	59.0
Grade Five, District: South Bend (N = 2)										
Reading	182.5	12.0	206.0	0.0	23.5	1.56	3.7	5.2	32.5	44.0
Mathematics	220.5	26.2	235.5	4.9	15.0	0.45	6.3	7.5	61.0	64.0
Grade Five, District: Stockton Unified (N = 9)										
Reading	178.8	9.7	218.0	23.6	39.2	2.07	3.4	6.1	32.0	59.0
Mathematics	210.2	18.5	268.3	25.3	58.1	2.50	5.5	10.8	51.0	93.0

Table 26 continues on next page

Table 26, continued

ITBS Subtest	SS <i>M</i> Pre	SS <i>SD</i> Pre	SS <i>M</i> Post	SS <i>SD</i> Post	<i>M</i> Diff	E.S. ( <i>d</i> )	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Five, District: Tippecanoe School Corporation ( <i>N</i> = 5)										
Reading	203.4	14.3	203.2	20.9	-0.2	-0.01	5.0	5.0	45.0	44.0
Mathematics	220.4	40.4	243.8	44.0	23.4	0.50	6.2	8.2	51.0	62.0
Grade Five, District: Washington Community Schools ( <i>N</i> = 6)										
Reading	176.0	10.9	183.3	11.0	7.3	0.62	3.2	3.7	27.0	27.0
Mathematics	201.7	15.8	208.3	14.2	6.7	0.41	4.9	5.3	44.0	46.0
Grade Five, District: Waukegan Schools ( <i>N</i> = 6)										
Reading	193.5	20.2	203.2	22.0	9.7	0.42	4.3	5.0	38.0	42.0
Mathematics	211.2	17.0	251.7	29.4	40.5	1.56	5.5	9.0	54.0	66.0

Table 27: Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade Six Students Served by Brain Hurricane within Districts, 2008-2009

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Six, District: Chicago Schools (N = 80)										
Reading	188.2	22.7	196.6	24.2	8.4	0.36	4.0	4.6	25.0	29.0
Mathematics	213.6	32.7	223.4	36.3	9.8	0.28	5.8	6.5	42.5	45.0
Grade Six, District: Chino Valley Unified (N = 2)										
Reading	179.5	21.9	191.5	10.6	12.0	0.39	3.4	4.2	20.5	26.0
Mathematics	230.0	22.6	240.0	18.4	10.0	0.27	7.0	7.8	56.5	57.5
Grade Six, District: Corona Norco (N = 5)										
Reading	199.4	11.9	202.0	8.3	2.6	0.23	4.7	4.9	34.0	35.0
Mathematics	220.4	12.6	217.6	5.7	-2.8	-0.26	6.2	6.1	55.0	42.0
Grade Six, District: Downey Unified (N = 2)										
Reading	185.0	29.7	211.5	34.6	26.5	0.46	3.8	5.6	24.0	39.5
Mathematics	249.5	55.9	253.5	30.4	4.0	0.05	8.8	9.2	71.5	66.5
Grade Six, District: Elkhart (N = 13)										
Reading	199.8	16.5	201.9	18.3	2.1	0.12	4.8	4.9	39.0	29.0
Mathematics	246.2	40.4	254.8	35.9	8.7	0.22	8.4	9.3	62.0	80.0
Grade Six, District: Gary Community Schools (N = 5)										
Reading	181.8	15.1	193.2	13.3	11.4	0.72	3.6	4.3	20.0	29.0
Mathematics	236.0	28.2	249.8	30.6	13.8	0.42	7.5	8.8	58.0	57.0
Grade Six, District: Highland (N = 1)										
Reading	214.0	.	218.0	.	4.0	na	5.8	6.1	46.0	45.0
Mathematics	275.0	.	263.0	.	-12.0	na	11.8	10.1	90.0	71.0
Grade Six, District: Lodi Unified (N = 1)										
Reading	218.0	.	195.0	.	-23.0	na	6.1	4.4	49.0	29.0
Mathematics	239.0	.	227.0	.	-12.0	na	7.7	6.7	62.0	50.0
Grade Six, District: Lynwood (N = 2)										
Reading	204.5	13.4	214.0	0.0	9.5	0.56	5.1	5.8	40.0	42.0
Mathematics	233.5	78.5	245.5	61.5	12.0	0.10	7.4	8.4	59.0	63.5

Table 27 continues on next page

Table 27, continued

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Six, District: Montebello Unified (N = 2)										
Reading	203.0	0.0	232.5	31.8	29.5	0.74	5.0	7.3	39.0	54.0
Mathematics	251.5	53.0	289.0	0.0	37.5	0.56	9.0	13+	72.5	93.0
Grade Six, District: MSD Wayne Township Schools (N = 3)										
Reading	200.0	28.6	209.0	11.8	9.0	0.33	4.8	5.4	39.0	37.0
Mathematics	184.7	10.1	247.3	72.2	62.7	0.97	3.7	8.5	26.0	93.0
Grade Six, District: Patterson Joint Unified (N = 1)										
Reading	167.0	.	174.0	.	7.0	na	2.7	3.1	10.0	10.0
Mathematics	198.0	.	206.0	.	8.0	na	4.6	5.2	36.0	36.0
Grade Six, District: Santa Ana Unified (N = 7)										
Reading	187.0	4.1	202.3	13.5	15.3	1.42	3.9	4.9	28.0	35.0
Mathematics	218.1	26.9	235.3	21.9	17.1	0.65	6.1	7.4	53.0	50.0
Grade Six, District: South Bay Union (N = 1)										
Reading	187.0	.	191.0	.	4.0	na	3.9	4.1	28.0	26.0
Mathematics	232.0	.	289.0	.	57.0	na	7.2	13+	58.0	93.0
Grade Six, District: South Bend (N = 1)										
Reading	155.0	.	191.0	.	36.0	na	2.1	4.1	7.0	26.0
Mathematics	198.0	.	206.0	.	8.0	na	4.6	5.2	36.0	36.0
Grade Six, District: Stockton Unified (N = 8)										
Reading	194.5	28.2	205.6	36.8	11.1	0.32	4.4	5.2	21.5	37.0
Mathematics	224.9	47.3	239.0	53.8	14.1	0.26	6.6	7.7	37.0	63.5
Grade Six, District: Washington Community Schools (N = 2)										
Reading	189.0	35.4	200.0	31.1	11.0	0.19	4.0	4.8	26.5	31.0
Mathematics	226.5	51.6	243.5	64.3	17.0	0.16	6.7	8.2	49.0	62.0
Grade Six, District: Waukegan Schools (N = 15)										
Reading	195.3	23.3	204.5	21.5	9.1	0.40	4.4	5.0	34.0	32.0
Mathematics	220.3	31.7	251.5	41.0	31.2	0.83	6.2	9.0	46.0	65.0

Table 28: Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade Seven Students Served by Brain Hurricane within Districts, 2008-2009

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Seven, District: Chicago Schools (N = 40)										
Reading	193.5	18.4	202.8	22.7	9.3	0.45	4.3	5.0	24.0	27.5
Mathematics	214.3	41.7	224.3	34.0	10.0	0.26	5.8	6.5	31.0	40.0
Grade Seven, District: Chino Valley Unified (N = 6)										
Reading	202.0	13.5	216.7	9.7	14.7	1.15	4.9	6.0	28.0	36.0
Mathematics	251.8	34.9	273.5	33.4	21.7	0.59	9.0	11.6	61.0	73.0
Grade Seven, District: Downey Unified (N = 7)										
Reading	198.3	16.4	211.1	24.5	12.9	0.57	4.6	5.5	32.0	32.0
Mathematics	223.7	32.2	259.0	52.2	35.3	0.76	6.5	9.7	39.0	77.0
Grade Seven, District: El Monte (N = 2)										
Reading	202.0	9.9	216.5	10.6	14.5	0.80	4.9	6.0	31.5	36.5
Mathematics	215.5	14.8	211.0	2.8	-4.5	-0.24	6.0	5.5	40.5	34.5
Grade Seven, District: Lynwood (N = 1)										
Reading	217.0	.	238.0	.	21.0	na	6.0	7.7	41.0	49.0
Mathematics	236.0	.	305.0	.	69.0	na	7.5	13+	53.0	93.0
Grade Seven, District: Montebello Unified (N = 1)										
Reading	209.0	.	235.0	.	26.0	na	5.4	7.5	36.0	48.0
Mathematics	255.0	.	305.0	.	50.0	na	9.3	13+	63.0	93.0
Grade Seven, District: Paramount Unified (N = 2)										
Reading	191.0	9.9	202.5	26.2	11.5	0.33	4.1	5.0	24.0	27.5
Mathematics	246.0	41.0	270.5	48.8	24.5	0.31	8.4	11.2	58.5	70.5
Grade Seven, District: South Whittier Unified (N = 1)										
Reading	202.0	.	195.0	.	-7.0	na	4.9	4.4	32.0	23.0
Mathematics	205.0	.	213.0	.	8.0	na	5.1	5.7	34.0	36.0
Grade Seven, District: Stockton Unified (N = 6)										
Reading	205.3	35.6	225.2	28.4	19.8	0.57	5.1	6.6	29.5	44.5
Mathematics	242.0	52.8	273.5	44.7	31.5	0.59	8.0	11.6	55.0	85.0

Table 28 continues on next page

Table 28, continued

ITBS Subtest	SS <i>M</i> Pre	SS <i>SD</i> Pre	SS <i>M</i> Post	SS <i>SD</i> Post	<i>M</i> Diff	E.S. ( <i>d</i> )	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Seven, District: Waukegan Schools ( <i>N</i> = 4)										
Reading	191.0	15.6	198.0	5.7	7.0	0.52	4.1	4.6	19.5	25.0
Mathematics	208.5	17.9	216.0	25.3	7.5	0.30	5.4	6.0	40.0	38.5

Table 29: Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade Eight Students Served by Brain Hurricane within Districts, 2008-2009

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Eight, District: Chicago Schools (N = 39)										
Reading	196.1	20.1	200.3	23.1	4.3	0.19	4.5	4.8	22.0	19.0
Mathematics	220.2	36.0	230.3	43.1	10.1	0.25	6.2	7.0	36.0	38.0
Grade Eight, District: Chino Valley Unified (N = 5)										
Reading	211.4	19.6	206.4	29.8	-5.0	-0.18	5.5	5.2	33.0	34.0
Mathematics	254.6	39.7	245.6	48.5	-9.0	-0.18	9.3	8.4	49.0	43.0
Grade Eight, District: Downey Unified (N = 1)										
Reading	164.0	.	209.0	.	45.0	na	2.6	5.4	7.0	27.0
Mathematics	287.0	.	242.0	.	-45.0	na	13+	8.0	75.0	46.0
Grade Eight, District: Hammond (N = 2)										
Reading	222.5	2.1	229.5	7.8	7.0	0.69	6.5	7.0	38.5	39.0
Mathematics	296.0	12.7	296.0	12.7	0.0	0.00	13+	13+	81.0	74.5
Grade Eight, District: Lynwood (N = 1)										
Reading	195.0	.	238.0	.	43.0	na	4.4	7.7	22.0	44.0
Mathematics	217.0	.	287.0	.	70.0	na	6.0	13+	36.0	68.0
Grade Eight, District: Patterson Joint Unified (N = 5)										
Reading	204.0	10.0	216.8	29.4	12.8	0.53	5.0	6.0	28.0	40.0
Mathematics	262.8	28.4	248.4	46.4	-14.4	-0.34	10.1	8.6	56.0	53.0
Grade Eight, District: Santa Ana Unified (N = 1)										
Reading	195.0	.	205.0	.	10.0	na	4.4	5.1	22.0	25.0
Mathematics	242.0	.	275.0	.	33.0	na	8.0	11.8	49.0	62.0
Grade Eight, District: South Whittier Unified (N = 1)										
Reading	191.0	.	227.0	.	36.0	na	4.1	6.8	19.0	38.0
Mathematics	231.0	.	255.0	.	24.0	na	7.1	9.3	44.0	53.0
Grade Eight, District: Stockton Unified (N = 6)										
Reading	203.0	28.5	236.5	19.0	33.5	1.28	5.0	7.6	27.0	47.5
Mathematics	225.0	46.3	284.0	43.2	59.0	1.22	6.6	13+	39.5	81.0

Table 29 continues on next page

Table 29, continued

ITBS Subtest	SS <i>M</i> Pre	SS <i>SD</i> Pre	SS <i>M</i> Post	SS <i>SD</i> Post	<i>M</i> Diff	E.S. ( <i>d</i> )	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Eight, District: Waukegan Schools ( <i>N</i> = 3)										
Reading	182.0	19.1	194.3	15.9	12.3	0.56	3.6	4.3	10.0	23.0
Mathematics	215.0	28.2	228.7	14.6	13.7	0.49	5.9	6.9	41.0	41.0



Table 30: Comparison of Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Students Served by Brain Hurricane within the Chicago Public Schools, 2008-2009

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	t	p	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade One, District: Chicago Schools (N = 137)												
W Analysis	131.1	16.8	137.8	18.6	6.7	0.38	4.4	***	K.9	1.2	38.0	32.0
Reading	130.7	15.3	144.4	16.5	13.7	0.86	6.7	***	K.9	1.5	43.0	40.0
Mathematics	128.5	12.5	133.0	15.0	4.5	0.32	3.4	***	K.7	K.9	29.0	25.0
Grade Two, District: Chicago Schools (N = 178)												
W Analysis	141.0	19.2	150.7	21.3	9.7	0.48	6.5	***	1.3	1.9	31.0	40.0
Reading	142.4	18.3	149.7	17.0	7.3	0.41	5.0	***	1.4	1.8	28.0	40.0
Mathematics	138.2	14.4	149.0	16.7	10.9	0.70	7.6	***	1.2	1.7	27.0	38.0
Grade Three, District: Chicago Schools (N = 134)												
Reading	157.2	28.6	166.5	28.2	9.3	0.32	4.0	***	2.2	2.7	37.0	33.0
Mathematics	164.7	20.2	181.8	30.4	17.1	0.66	6.4	***	2.5	3.5	34.0	40.0
Grade Four, District: Chicago Schools (N = 144)												
Reading	173.4	18.4	180.1	20.1	6.7	0.35	5.8	***	3.0	3.4	38.0	37.0
Mathematics	192.7	33.2	211.3	32.2	18.6	0.57	7.6	***	4.3	5.5	49.0	67.0
Grade Five, District: Chicago Schools (N = 102)												
Reading	183.3	17.8	192.0	21.2	8.7	0.4	5.1	***	3.7	4.2	33.0	36.0
Mathematics	202.4	32.3	219.0	38.6	16.5	0.5	5.0	***	4.9	6.2	41.0	47.0
Grade Six, District: Chicago Schools (N = 80)												
Reading	188.2	22.7	196.6	24.2	8.4	0.36	4.2	***	4.0	4.6	25.0	29.0
Mathematics	213.6	32.7	223.4	36.3	9.8	0.28	3.5	***	5.8	6.5	42.5	45.0
Grade Seven, District: Chicago Schools (N = 40)												
Reading	193.5	18.4	202.8	22.7	9.3	0.45	3.5	**	4.3	5.0	24.0	27.5
Mathematics	214.3	41.7	224.3	34.0	10.0	0.26	2.0		5.8	6.5	31.0	40.0
Grade Eight, District: Chicago Schools (N = 39)												
Reading	196.1	20.1	200.3	23.1	4.3	0.19	1.6		4.5	4.8	22.0	19.0
Mathematics	220.2	36.0	230.3	43.1	10.1	0.25	1.9		6.2	7.0	36.0	38.0

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

Table 31: Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade One Students Served by Brain Hurricane within the Chicago Public Schools by School Attended, 2008-2009

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade One, School: Barton (N = 5)										
Word Analysis	129.4	12.1	129.0	18.1	-0.4	-0.02	K.7	K.7	38.0	15.0
Reading	116.8	15.6	153.8	16.3	37.0	2.09	K.1	2.0	7.0	51.0
Mathematics	126.0	6.7	126.0	13.6	0.0	0.00	K.5	K.5	23.0	13.0
Grade One, School: Brunson (N = 7)										
Word Analysis	122.3	7.2	133.0	7.2	10.7	1.39	K.3	1.0	22.0	25.0
Reading	130.0	11.0	138.1	10.4	8.1	0.70	K.8	1.2	34.0	26.0
Mathematics	125.7	3.4	130.1	3.9	4.4	1.13	K.5	K.8	27.0	17.0
Grade One, School: Cather (N = 3)										
Word Analysis	134.3	24.5	134.0	32.1	-0.3	-0.01	1.0	1.0	45.0	7.0
Reading	122.3	28.3	153.3	5.8	31.0	1.21	K.2	2.0	7.0	50.0
Mathematics	121.7	2.9	125.7	21.9	4.0	0.20	K.2	K.5	17.0	7.0
Grade One, School: CICS - Bucktown (N = 6)										
Word Analysis	141.8	12.5	156.7	15.5	14.8	0.97	1.4	2.2	56.0	59.5
Reading	137.0	4.4	130.5	19.0	-6.5	-0.43	1.2	K.9	49.5	35.0
Mathematics	138.8	11.0	128.2	26.7	-10.7	-0.48	1.2	K.6	44.0	30.0
Grade One, School: CICS - Irving Park (N = 13)										
Word Analysis	134.0	23.7	150.4	17.4	16.4	0.76	1.0	1.8	41.0	47.0
Reading	131.3	7.0	152.0	16.5	20.7	1.58	K.9	1.9	43.0	57.0
Mathematics	123.5	13.9	136.5	16.1	13.0	0.84	K.3	1.1	20.0	26.0
Grade One, School: CICS - Washington Park (N = 4)										
Word Analysis	140.8	18.5	157.0	24.5	16.3	0.65	1.3	2.2	57.5	47.5
Reading	146.5	17.9	151.8	14.1	5.3	0.28	1.6	1.9	62.0	48.5
Mathematics	130.8	4.8	140.0	9.8	9.3	1.04	K.8	1.3	39.0	40.0
Grade One, School: CICS - West Belden (N = 4)										
Word Analysis	121.5	11.6	139.8	16.4	18.3	1.12	K.3	1.3	29.0	38.0
Reading	132.5	5.9	141.0	7.7	8.5	1.08	1.0	1.4	36.5	30.0
Mathematics	129.8	7.5	137.0	10.2	7.3	0.70	K.8	1.1	35.5	31.5
Grade One, School: CICS - Wrightwood (N = 6)										
Word Analysis	158.7	23.3	142.3	29.7	-16.3	-0.57	2.3	1.4	67.0	40.5
Reading	144.7	10.3	148.8	6.0	4.2	0.45	1.5	1.7	67.5	49.0
Mathematics	138.5	5.2	151.2	19.8	12.7	0.81	1.2	1.8	49.5	47.5

Table 31 continues on next page

Table 31, continued

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade One, School: Corkery (N = 2)										
Word Analysis	151.5	4.9	132.0	14.1	-19.5	-1.04	1.9	K.9	68.0	25.0
Reading	154.0	22.6	133.5	2.1	-20.5	-0.72	2.0	1.0	72.0	18.5
Mathematics	188.0	0.0	146.0	7.1	-42.0	-4.74	4.0	1.6	99.0	44.5
Grade One, School: Delano (N = 2)										
Word Analysis	138.5	13.4	142.0	18.4	3.5	0.12	1.2	1.4	51.0	38.5
Reading	137.0	0.0	147.5	4.9	10.5	1.69	1.2	1.7	48.0	45.5
Mathematics	128.5	3.5	136.0	7.1	7.5	0.76	K.7	1.1	32.0	28.5
Grade One, School: Emmet (N = 3)										
Word Analysis	125.7	7.6	132.0	5.3	6.3	0.77	K.5	K.9	38.0	29.0
Reading	122.3	14.8	106.0	0.0	-16.3	-1.24	K.2	K.0	17.0	7.0
Mathematics	119.3	10.7	129.0	7.8	9.7	0.82	K.0	K.7	25.0	24.0
Grade One, School: Falconer (N = 18)										
Word Analysis	135.6	12.6	145.6	17.9	10.0	0.63	1.1	1.6	44.5	42.5
Reading	137.3	10.8	145.0	16.2	7.7	0.55	1.2	1.5	43.0	40.0
Mathematics	132.3	7.8	138.4	15.9	6.2	0.48	K.9	1.2	37.0	30.0
Grade One, School: Faraday (N = 4)										
Word Analysis	124.8	8.1	124.8	23.0	0.0	0.00	K.5	K.5	29.0	18.5
Reading	138.0	6.9	127.5	14.8	-10.5	-0.79	1.2	K.6	49.5	15.0
Mathematics	132.3	9.3	129.3	10.2	-3.0	-0.27	K.9	K.7	36.5	16.0
Grade One, School: Graham (N = 3)										
Word Analysis	128.3	14.4	146.0	6.2	17.7	1.27	K.7	1.6	45.0	47.0
Reading	140.3	3.5	146.7	9.1	6.3	0.73	1.3	1.6	56.0	47.0
Mathematics	130.0	5.6	137.0	10.6	7.0	0.66	K.8	1.1	37.0	37.0
Grade One, School: Guggenheim (N = 9)										
Word Analysis	121.4	6.8	136.3	14.0	14.9	1.29	K.2	1.1	31.0	29.0
Reading	127.4	9.9	138.8	5.7	11.3	1.34	K.6	1.3	25.0	32.0
Mathematics	125.3	2.8	135.3	4.4	10.0	2.59	K.4	1.0	27.0	26.0
Grade One, School: Herzl (N = 3)										
Word Analysis	129.3	11.0	152.7	5.7	23.3	2.12	K.7	2.0	31.0	51.0
Reading	141.0	4.6	156.7	2.9	15.7	3.26	1.4	2.2	56.0	57.0
Mathematics	134.3	7.6	141.0	5.3	6.7	0.81	1.0	1.3	37.0	40.0

Table 31 continues on next page

Table 31, continued

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade One, School: Jenner (N = 3)										
Word Analysis	154.7	16.2	146.0	8.7	-8.7	-0.53	2.1	1.6	80.0	51.0
Reading	149.3	2.9	132.0	0.0	-17.3	-6.78	1.7	K.9	77.0	15.0
Mathematics	142.3	15.0	140.3	8.1	-2.0	-0.13	1.4	1.3	74.0	43.0
Grade One, School: Lawndale (N = 3)										
Word Analysis	123.3	7.4	116.0	18.4	-7.3	-0.42	K.3	K.0	34.0	15.0
Reading	118.3	21.4	159.0	19.1	40.7	1.60	K.1	2.3	7.0	77.0
Mathematics	127.7	6.1	119.7	21.6	-8.0	-0.40	K.6	K.1	33.0	17.0
Grade One, School: Linne (N = 11)										
Word Analysis	125.5	12.8	128.7	11.3	3.3	0.26	K.5	K.7	34.0	22.0
Reading	133.7	8.3	140.3	8.2	6.5	0.77	1.0	1.3	43.0	28.0
Mathematics	124.5	5.7	131.5	5.4	7.0	1.21	K.4	K.9	27.0	20.0
Grade One, School: Manierre (N = 1)										
Word Analysis	136.0	.	146.0	.	10.0	na	1.1	1.6	48.0	45.0
Reading	150.0	.	138.0	.	-12.0	na	1.8	1.2	76.0	28.0
Mathematics	139.0	.	139.0	.	0.0	na	1.2	1.2	51.0	34.0
Grade One, School: McKay (N = 3)										
Word Analysis	128.0	6.6	119.0	5.0	-9.0	-1.23	K.7	K.1	38.0	7.0
Reading	106.0	0.0	170.0	0.0	64.0		K.0	2.9	7.0	77.0
Mathematics	133.7	0.6	110.7	6.4	-23.0	-4.07	1.0	P.8	42.0	7.0
Grade One, School: McNair (N = 4)										
Word Analysis	127.0	5.7	109.5	2.5	-17.5	-3.44	K.6	P.7	34.5	7.0
Reading	106.0	0.0	170.0	0.0	64.0	na	K.0	2.9	7.0	77.0
Mathematics	111.3	8.8	108.8	8.2	-2.5	-0.25	P.8	P.7	7.0	7.0
Grade One, School: Powell (N = 7)										
Word Analysis	119.7	24.2	134.6	13.2	14.9	0.71	K.2	1.1	38.0	25.0
Reading	118.6	22.2	136.9	17.1	18.3	0.86	K.1	1.2	7.0	26.0
Mathematics	115.1	14.1	136.6	19.4	21.4	1.17	P.9	1.1	17.0	37.0
Grade One, School: Sherman (N = 2)										
Word Analysis	136.0	14.1	138.0	5.7	2.0	0.10	1.1	1.2	47.5	34.5
Reading	132.5	26.2	123.0	12.7	-9.5	-0.26	1.0	K.2	42.0	11.0
Mathematics	129.5	4.9	132.0	7.1	2.5	0.23	K.8	K.9	34.0	21.5

Table 31 continues on next page

Table 31, continued

ITBS Subtest	SS <i>M</i> Pre	SS <i>SD</i> Pre	SS <i>M</i> Post	SS <i>SD</i> Post	<i>M</i> Diff	E.S. ( <i>d</i> )	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade One, School: Waters ( <i>N</i> = 7)										
Word Analysis	125.4	6.3	137.3	9.7	11.9	1.35	K.5	1.2	34.0	32.0
Reading	126.3	9.7	139.1	8.8	12.9	1.29	K.5	1.3	17.0	28.0
Mathematics	123.4	4.5	130.1	3.4	6.7	1.57	K.3	K.8	20.0	20.0
Grade One, School: Westcott ( <i>N</i> = 4)										
Word Analysis	117.3	14.5	115.0	3.6	-2.3	-0.18	K.0	P.9	20.0	7.0
Reading	106.0	0.0	170.0	0.0	64.0	na	K.0	2.9	7.0	77.0
Mathematics	126.3	6.6	116.8	11.2	-9.5	-0.90	K.5	K.0	28.0	7.0

Table 32: Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade Two Students Served by Brain Hurricane within the Chicago Public Schools by School Attended, 2008-2009

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Two, School: Barton (N = 3)										
Word Analysis	126.7	6.5	130.3	8.5	3.7	0.39	K.6	K.8	15.0	15.0
Reading	140.0	7.9	136.7	10.5	-3.3	-0.29	1.3	1.2	28.0	19.0
Mathematics	142.0	8.2	145.7	7.4	3.7	0.38	1.3	1.6	27.0	32.0
Grade Two, School: Brunson (N = 7)										
Word Analysis	138.0	5.6	146.7	12.0	8.7	0.86	1.2	1.6	28.0	38.0
Reading	145.9	9.6	152.6	8.0	6.7	0.71	1.6	2.0	32.0	46.0
Mathematics	134.6	16.8	140.7	8.7	6.1	0.43	1.0	1.3	27.0	27.0
Grade Two, School: Cather (N = 1)										
Word Analysis	127.0	.	136.0	.	9.0	na	K.6	1.1	15.0	25.0
Reading	145.0	.	141.0	.	-4.0	na	1.5	1.4	32.0	25.0
Mathematics	133.0	.	143.0	.	10.0	na	K.9	1.4	17.0	32.0
Grade Two, School: CICS - Bucktown (N = 6)										
Word Analysis	143.5	9.1	157.3	15.4	13.8	1.01	1.5	2.2	35.0	52.5
Reading	153.7	7.7	154.8	5.1	1.2	0.17	2.0	2.1	47.5	48.5
Mathematics	135.8	9.6	149.7	13.0	13.8	1.12	1.1	1.8	18.5	36.0
Grade Two, School: CICS - Irving Park (N = 9)										
Word Analysis	113.9	16.0	153.6	21.3	39.7	2.00	P.9	2.0	7.0	45.0
Reading	121.3	11.3	153.9	9.6	32.6	2.95	K.2	2.0	7.0	45.0
Mathematics	111.4	13.0	173.4	17.2	62.0	3.88	K.3	3.1	7.0	85.0
Grade Two, School: CICS - Washington Park (N = 6)										
Word Analysis	144.5	8.1	140.3	24.6	-4.2	-0.21	1.5	1.3	33.0	29.5
Reading	146.3	15.6	144.8	19.6	-1.5	-0.08	1.6	1.5	25.0	44.0
Mathematics	141.0	15.0	155.2	9.2	14.2	1.05	1.3	2.1	36.0	54.5
Grade Two, School: CICS - West Belden (N = 7)										
Word Analysis	146.7	18.1	152.1	19.1	5.4	0.27	1.6	1.9	35.0	38.0
Reading	155.4	18.1	110.6	6.8	-44.9	-3.05	2.1	K.1	49.0	7.0
Mathematics	144.3	9.5	155.0	10.0	10.7	1.02	1.5	2.1	32.0	42.0
Grade Two, School: CICS - Wrightwood (N = 4)										
Word Analysis	173.3	14.3	153.0	19.4	-20.3	-1.03	3.1	2.0	67.0	45.0
Reading	170.8	13.0	152.3	15.3	-18.5	-1.13	3.0	1.9	60.5	44.5
Mathematics	132.3	23.4	149.3	23.0	17.0	0.64	K.9	1.7	25.5	31.0

Table 32 continues on next page

Table 32, continued

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Two, School: Corkery (N = 5)										
Word Analysis	135.8	7.8	134.2	8.8	-1.6	-0.17	1.1	1.0	22.0	25.0
Reading	129.0	4.8	139.6	7.3	10.6	1.54	K.7	1.3	7.0	28.0
Mathematics	130.6	8.0	137.6	8.7	7.0	0.75	K.8	1.2	17.0	27.0
Grade Two, School: Delano (N = 2)										
Word Analysis	120.0	5.7	151.5	29.0	31.5	0.85	K.2	1.9	8.5	41.5
Reading	122.5	20.5	148.5	7.8	26.0	0.95	K.2	1.7	13.0	37.0
Mathematics	107.5	10.6	127.5	3.5	20.0	1.43	K.2	K.7	7.0	10.0
Grade Two, School: Emmet (N = 2)										
Word Analysis	130.0	1.4	131.0	2.8	1.0	0.25	K.8	K.9	18.0	19.5
Reading	143.5	2.1	151.0	17.0	7.5	0.35	1.5	1.9	29.0	40.0
Mathematics	130.0	0.0	140.0	7.1	10.0	1.13	K.8	1.2	13.0	27.0
Grade Two, School: Falconer 1 (N = 30)										
Word Analysis	151.1	21.0	162.3	22.7	11.2	0.51	1.9	2.5	42.0	50.5
Reading	154.4	14.6	159.4	15.6	5.0	0.32	2.0	2.3	45.0	47.5
Mathematics	144.6	11.7	157.4	13.9	12.7	0.98	1.5	2.2	38.0	51.0
Grade Two, School: Faraday (N = 1)										
Word Analysis	101.0	.	144.0	.	43.0	na	P.4	1.5	7.0	35.0
Reading	111.0	.	137.0	.	26.0	na	K.1	1.2	7.0	19.0
Mathematics	102.0	.	125.0	.	23.0	na	K.0	K.6	7.0	7.0
Grade Two, School: Graham (N = 6)										
Word Analysis	155.7	22.7	163.3	26.1	7.7	0.29	2.1	2.5	43.5	49.5
Reading	156.5	20.3	157.7	12.1	1.2	0.06	2.2	2.2	42.0	49.0
Mathematics	138.8	18.0	147.5	12.7	8.7	0.51	1.2	1.7	23.5	38.0
Grade Two, School: Guggenheim (N = 14)										
Word Analysis	136.7	14.1	147.4	18.4	10.6	0.63	1.2	1.6	26.5	36.5
Reading	144.6	11.8	152.5	11.1	7.9	0.67	1.5	2.0	25.5	40.5
Mathematics	134.3	9.9	140.9	12.6	6.6	0.56	1.0	1.3	18.5	18.5
Grade 2, School: Herzl (N = 1)										
Word Analysis	140.0	.	156.0	.	16.0	na	1.3	2.1	31.0	49.0
Reading	120.0	.	144.0	.	24.0	na	K.2	1.5	7.0	31.0
Mathematics	133.0	.	135.0	.	2.0	na	K.9	1.0	17.0	20.0

Table 32 continues on next page

Table 32, continued

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Two, School: Lawndale (N = 12)										
Word Analysis	150.4	9.6	165.2	14.9	14.8	1.14	1.8	2.6	45.0	55.5
Reading	142.1	14.7	155.9	10.8	13.8	1.03	1.4	2.1	33.5	46.0
Mathematics	148.1	5.4	160.1	6.7	12.0	1.91	1.7	2.3	38.0	58.0
Grade Two, School: Linne (N = 20)										
Word Analysis	138.6	15.7	149.2	17.2	10.6	0.63	1.2	1.7	22.0	41.5
Reading	142.0	13.9	152.1	19.1	10.1	0.59	1.4	1.9	23.5	43.0
Mathematics	140.4	16.0	142.2	15.7	1.8	0.11	1.2	1.3	32.0	34.0
Grade Two, School: Manierre (N = 2)										
Word Analysis	149.5	13.4	142.0	5.7	-7.5	-0.41	1.8	1.4	41.5	33.0
Reading	139.5	19.1	142.0	0.0	2.5	0.10	1.3	1.4	26.0	26.0
Mathematics	139.5	16.3	137.5	10.6	-2.0	-0.08	1.2	1.2	24.5	23.5
Grade Two, School: McKay (N = 3)										
Word Analysis	141.3	17.5	165.7	23.2	24.3	0.95	1.3	2.7	38.0	64.0
Reading	153.0	15.6	169.3	23.4	16.3	0.66	2.0	2.9	56.0	73.0
Mathematics	139.0	1.7	165.7	12.7	26.7	2.35	1.2	2.7	27.0	75.0
Grade Two, School: McNair (N = 9)										
Word Analysis	136.3	24.9	160.4	23.8	24.1	0.94	1.1	2.4	35.0	45.0
Reading	112.2	7.2	141.6	14.8	29.3	2.40	K.1	1.4	7.0	34.0
Mathematics	140.1	9.0	142.6	20.7	2.4	0.15	1.2	1.4	23.0	32.0
Grade Two, School: Powell (N = 12)										
Word Analysis	133.3	19.3	139.3	17.8	6.0	0.31	1.0	1.2	19.5	32.0
Reading	141.9	14.3	148.3	15.6	6.4	0.41	1.4	1.7	29.5	36.0
Mathematics	141.0	11.3	142.4	21.7	1.4	0.08	1.3	1.3	33.0	32.5
Grade Two, School: Sherman (N = 3)										
Word Analysis	128.3	19.0	156.3	6.5	28.0	1.57	K.7	2.1	15.0	49.0
Reading	136.3	9.1	140.3	4.7	4.0	0.44	1.1	1.3	15.0	26.0
Mathematics	143.0	0.0	145.0	0.0	2.0	na	1.4	1.5	32.0	34.0
Grade Two, School: Waters (N = 4)										
Word Analysis	134.5	7.6	139.0	9.4	4.5	0.46	1.1	1.2	24.0	30.0
Reading	138.5	11.1	144.3	13.2	5.8	0.41	1.3	1.5	17.5	37.0
Mathematics	131.3	9.5	146.3	5.3	15.0	1.70	K.8	1.6	10.0	33.0

Table 32 continues on next page



Table 32, continued

ITBS Subtest	SS <i>M</i> Pre	SS <i>SD</i> Pre	SS <i>M</i> Post	SS <i>SD</i> Post	<i>M</i> Diff	E.S. ( <i>d</i> )	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Two, School: Wentworth ( <i>N</i> = 6)										
Word Analysis	146.2	21.7	122.8	21.8	-23.3	-0.99	1.6	K.3	37.5	12.5
Reading	135.3	21.4	134.3	21.4	-1.0	-0.04	1.1	1.0	18.5	25.0
Mathematics	141.8	11.1	139.8	23.0	-2.0	-0.10	1.3	1.2	26.0	29.0
Grade Two, School: Westcott ( <i>N</i> = 3)										
Word Analysis	141.7	7.5	117.3	5.0	-24.3	-3.04	1.4	K.0	38.0	7.0
Reading	108.0	0.0	150.0	0.0	42.0	na	K.0	1.8	7.0	40.0
Mathematics	145.0	0.0	148.0	0.0	3.0	na	1.5	1.7	34.0	38.0

Table 33: Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade Three Students Served by Brain Hurricane within the Chicago Public Schools by School Attended, 2008-2009

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Three, School: Armstrong G ( N = 12)										
Reading	157.2	8.5	163.0	13.1	5.8	0.51	2.2	2.5	32.0	32.0
Mathematics	166.3	10.1	165.5	14.0	-0.8	-0.07	2.6	2.6	38.0	29.0
Grade Three, School: Barton ( N = 8)										
Reading	153.1	22.0	154.6	23.7	1.5	0.06	2.0	2.1	17.5	10.0
Mathematics	167.9	20.4	172.0	30.2	4.1	0.15	2.8	3.0	32.5	33.0
Grade Three, School: Brunson ( N = 6)										
Reading	166.5	11.9	164.0	14.2	-2.5	-0.18	2.7	2.6	44.0	28.0
Mathematics	171.3	13.1	165.3	20.4	-6.0	-0.32	2.9	2.5	44.0	31.0
Grade Three, School: Cather ( N = 7)										
Reading	159.7	22.0	164.3	17.9	4.6	0.21	2.3	2.6	20.0	32.0
Mathematics	158.1	19.8	181.3	26.6	23.1	0.92	2.2	3.5	22.0	51.0
Grade Three, School: CICS - Irving Park ( N = 8)										
Reading	120.8	75.0	151.0	95.5	30.3	0.33	K.2	1.9	37.0	63.0
Mathematics	151.8	9.6	231.5	24.0	79.8	4.12	1.9	7.2	22.0	99.0
Grade Three, School: CICS - West Belden ( N = 4)										
Reading	163.5	5.8	169.0	5.5	5.5	0.85	2.6	2.8	38.0	34.5
Mathematics	180.0	15.5	199.8	27.3	19.8	0.77	3.4	4.8	60.0	54.0
Grade Three, School: CICS - Wrightwood ( N = 2)										
Reading	170.0	0.0	173.0	4.2	3.0	0.56	2.9	3.0	44.0	38.5
Mathematics	163.0	17.0	173.5	17.7	10.5	0.34	2.4	3.1	35.5	38.0
Grade Three, School: Corkery ( N = 1)										
Reading	173.0	.	176.0	.	3.0	na	3.0	3.2	47.0	41.0
Mathematics	155.0	.	200.0	.	45.0	na	2.0	4.8	27.0	64.0
Grade Three, School: Delano ( N = 3)										
Reading	147.3	11.7	168.0	11.4	20.7	1.43	1.6	2.8	25.0	29.0
Mathematics	150.7	7.5	204.0	34.2	53.3	1.72	1.8	5.0	22.0	64.0
Grade Three, School: Emmet ( N = 5)										
Reading	161.4	16.9	173.4	13.4	12.0	0.71	2.4	3.0	39.0	33.0
Mathematics	163.0	26.9	166.0	33.8	3.0	0.09	2.4	2.6	41.0	40.0

Table 33 continues on next page

Table 33, continued

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Three, School: Falconer (N = 14)										
Reading	163.1	16.1	173.6	13.7	10.6	0.69	2.5	3.1	39.0	40.0
Mathematics	181.4	21.2	192.6	27.5	11.2	0.44	3.5	4.3	58.0	47.5
Grade Three, School: Faraday (N = 2)										
Reading	173.0	18.4	188.0	9.9	15.0	0.57	3.0	4.0	47.5	52.5
Mathematics	149.0	2.8	213.0	38.2	64.0	1.33	1.7	5.7	19.5	75.0
Grade Three, School: Graham (N = 3)										
Reading	157.3	11.6	170.0	12.8	12.7	0.83	2.2	2.9	37.0	39.0
Mathematics	170.0	10.4	157.3	22.2	-12.7	-0.58	2.9	2.1	38.0	10.0
Grade Three, School: Guggenheim (N = 6)										
Reading	152.0	20.7	156.5	18.8	4.5	0.21	1.9	2.2	29.5	28.5
Mathematics	150.0	17.5	172.5	25.3	22.5	0.96	1.8	3.0	25.5	28.5
Grade Three, School: Herzl (N = 8)										
Reading	144.3	60.6	190.5	24.6	46.3	0.95	1.5	4.1	40.0	46.5
Mathematics	171.5	27.2	203.9	24.7	32.4	1.18	3.0	5.0	38.0	61.5
Grade Three, School: Jenner (N = 5)										
Reading	169.0	15.1	168.4	16.5	-0.6	-0.03	2.8	2.8	41.0	39.0
Mathematics	162.4	8.8	164.4	11.7	2.0	0.17	2.4	2.5	38.0	22.0
Grade Three, School: Lawndale (N = 5)										
Reading	152.0	9.2	164.2	14.7	12.2	0.90	1.9	2.6	30.0	25.0
Mathematics	157.0	23.7	160.0	24.0	3.0	0.11	2.1	2.3	41.0	40.0
Grade Three, School: Linne (N = 12)										
Reading	165.4	18.8	166.2	19.7	0.8	0.04	2.6	2.7	37.5	37.5
Mathematics	164.8	25.8	185.6	29.3	20.8	0.73	2.5	3.8	29.0	53.0
Grade Three, School: Manierre (N = 4)										
Reading	160.0	15.3	166.8	11.6	6.8	0.43	2.3	2.7	32.0	27.0
Mathematics	167.5	14.1	190.5	34.5	23.0	0.76	2.8	4.1	46.0	45.5
Grade Three, School: McKay (N = 2)										
Reading	161.5	7.8	166.5	20.5	5.0	0.18	2.4	2.7	35.5	30.5
Mathematics	168.0	9.9	158.0	0.0	-10.0	-0.81	2.8	2.2	41.5	22.0

*Table 33 continues on next page*

Table 33, continued

ITBS Subtest	SS <i>M</i> Pre	SS <i>SD</i> Pre	SS <i>M</i> Post	SS <i>SD</i> Post	<i>M</i> Diff	E.S. ( <i>d</i> )	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Three, School: McNair ( <i>N</i> = 4)										
Reading	158.5	14.8	145.8	11.1	-12.8	-0.85	2.3	1.6	35.5	8.5
Mathematics	150.3	15.5	149.0	19.2	-1.3	-0.06	1.8	1.7	22.0	8.5
Grade Three, School: Waters ( <i>N</i> = 7)										
Reading	156.9	20.8	175.3	16.1	18.4	0.92	2.2	3.1	34.0	44.0
Mathematics	159.1	25.8	181.7	31.7	22.6	0.73	2.2	3.5	13.0	47.0
Grade Three, School: Westcott ( <i>N</i> = 6)										
Reading	167.8	17.8	159.8	14.4	-8.0	-0.46	2.8	2.3	44.0	22.5
Mathematics	167.2	24.4	173.8	18.0	6.7	0.29	2.7	3.1	32.5	34.5

Table 34: Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade Four Students Served by Brain Hurricane within the Chicago Public Schools by School Attended, 2008-2009

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Four, School: Armstrong G (N = 16)										
Reading	171.2	24.3	178.1	28.1	6.9	0.26	2.9	3.3	38.0	39.0
Mathematics	199.4	29.3	220.5	30.0	21.1	0.69	4.7	6.3	54.0	81.0
Grade Four, School: Barton (N = 2)										
Reading	174.5	2.1	166.0	25.5	-8.5	-0.27	3.1	2.7	36.5	22.0
Mathematics	175.5	20.5	206.0	48.1	30.5	0.47	3.2	5.2	34.5	53.0
Grade Four, School: Brunson (N = 3)										
Reading	171.7	21.8	167.3	18.1	-4.3	-0.17	3.0	2.7	38.0	24.0
Mathematics	189.0	20.5	223.3	28.9	34.3	1.09	4.0	6.5	49.0	81.0
Grade Four, School: Cather (N = 4)										
Reading	175.3	16.5	179.8	13.7	4.5	0.26	3.1	3.4	40.0	28.5
Mathematics	167.0	28.6	213.3	24.4	46.3	1.51	2.7	5.7	13.5	62.5
Grade Four, School: CICS - Bucktown (N = 4)										
Reading	181.3	18.6	184.5	9.0	3.3	0.19	3.5	3.8	44.0	38.0
Mathematics	212.5	37.3	235.5	9.0	23.0	0.74	5.7	7.5	83.0	81.0
Grade Four, School: CICS - Irving Park (N = 6)										
Reading	178.7	16.2	176.8	17.4	-1.8	-0.10	3.4	3.3	41.0	30.0
Mathematics	145.7	4.1	186.3	27.1	40.7	1.94	1.6	3.8	7.0	38.0
Grade Four, School: CICS - Washington Park (N = 9)										
Reading	166.2	20.5	174.1	29.4	7.9	0.30	2.7	3.1	26.0	30.0
Mathematics	175.9	25.4	178.3	27.5	2.4	0.09	3.2	3.3	32.0	25.0
Grade Four, School: CICS - West Belden (N = 2)										
Reading	182.5	2.1	193.0	9.9	10.5	0.83	3.7	4.3	42.5	44.5
Mathematics	215.0	35.4	240.0	0.0	25.0	0.56	5.9	7.8	74.0	81.0
Grade Four, School: CICS - Wrightwood (N = 2)										
Reading	174.0	19.8	177.0	19.8	3.0	0.09	3.1	3.3	33.5	29.0
Mathematics	180.5	2.1	209.5	43.1	29.0	0.54	3.5	5.5	40.0	56.5
Grade Four, School: Corkery (N = 5)										
Reading	171.2	16.7	185.4	14.3	14.2	0.82	2.9	3.8	38.0	34.0
Mathematics	194.4	37.1	200.8	29.1	6.4	0.17	4.4	4.8	53.0	58.0

Table 34 continues on next page

Table 34, continued

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Four, School: Emmet (N = 4)										
Reading	149.0	7.6	153.0	6.8	4.0	0.48	1.7	2.0	7.0	7.0
Mathematics	158.0	26.4	154.5	25.6	-3.5	-0.12	2.2	2.0	26.0	10.0
Grade Four, School: Falconer (N = 31)										
Reading	178.5	17.4	187.4	19.1	8.9	0.48	3.4	3.9	40.0	40.0
Mathematics	201.4	33.6	221.5	24.6	20.2	0.68	4.8	6.4	67.0	81.0
Grade Four, School: Faraday (N = 1)										
Reading	179.0	.	176.0	.	-3.0	na	3.4	3.2	40.0	30.0
Mathematics	147.0	.	186.0	.	39.0	na	1.6	3.8	7.0	38.0
Grade Four, School: Graham (N = 2)										
Reading	172.0	17.0	180.0	28.3	8.0	0.19	3.0	3.4	32.0	31.5
Mathematics	224.5	21.9	217.0	32.5	-7.5	-0.15	6.6	6.0	83.0	62.5
Grade Four, School: Guggenheim (N = 15)										
Reading	180.1	22.6	190.8	11.0	10.7	0.58	3.4	4.1	40.0	46.0
Mathematics	207.3	28.0	228.2	25.2	20.9	0.76	5.3	6.8	59.0	81.0
Grade Four, School: Herzl (N = 2)										
Reading	193.0	2.8	194.0	8.5	1.0	0.09	4.3	4.3	51.0	45.0
Mathematics	240.0	0.0	240.0	0.0	0.0	na	7.8	7.8	99.0	81.0
Grade Four, School: Jenner (N = 1)										
Reading	186.0	.	186.0	.	0.0	na	3.9	3.9	45.0	39.0
Mathematics	222.0	.	186.0	.	-36.0	na	6.4	3.8	77.0	38.0
Grade Four, School: Linne (N = 20)										
Reading	167.4	15.9	174.4	15.0	7.0	0.44	2.7	3.1	24.0	28.5
Mathematics	193.3	31.2	210.1	34.0	16.9	0.51	4.3	5.5	46.0	69.5
Grade Four, School: Manierre (N = 3)										
Reading	171.7	17.2	176.0	17.4	4.3	0.20	3.0	3.2	40.0	37.0
Mathematics	205.0	32.8	205.0	32.8	0.0	0.00	5.1	5.1	59.0	49.0
Grade Four, School: McKay (N = 4)										
Reading	166.3	14.2	185.8	26.0	19.5	0.81	2.7	3.9	29.5	30.0
Mathematics	200.3	36.5	204.0	33.7	3.8	0.09	4.8	5.0	56.0	54.0

Table 34 continues on next page

Table 34, continued

ITBS Subtest	SS <i>M</i> Pre	SS <i>SD</i> Pre	SS <i>M</i> Post	SS <i>SD</i> Post	<i>M</i> Diff	E.S. ( <i>d</i> )	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Four, School: Sherman ( <i>N</i> = 2)										
Reading	177.0	5.7	176.5	13.4	-0.5	-0.03	3.3	3.3	38.0	30.5
Mathematics	193.0	9.9	213.0	38.2	20.0	0.40	4.3	5.7	52.0	59.5
Grade Four, School: Waters ( <i>N</i> = 2)										
Reading	178.5	3.5	188.0	9.9	9.5	0.72	3.4	4.0	39.5	40.0
Mathematics	175.5	34.6	217.0	32.5	41.5	0.70	3.2	6.0	33.0	62.5
Grade Four, School: Wentworth ( <i>N</i> = 3)										
Reading	156.0	4.0	146.0	7.2	-10.0	-1.37	2.1	1.6	17.0	7.0
Mathematics	143.0	8.0	157.0	1.7	14.0	1.93	1.4	2.1	7.0	10.0
Grade Four, School: Westcott ( <i>N</i> = 1)										
Reading	170.0	.	186.0	.	16.0	na	2.9	3.9	32.0	39.0
Mathematics	172.0	.	240.0	.	68.0	na	3.0	7.8	32.0	81.0

Table 35: Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade Five Students Served by Brain Hurricane within the Chicago Public Schools by School Attended, 2008-2009

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Five, School: Armstrong G (N = 5)										
Reading	190.8	13.4	200.0	16.2	9.2	0.56	4.1	4.8	36.0	42.0
Mathematics	207.4	33.3	244.6	46.8	37.2	0.83	5.3	8.3	47.0	75.0
Grade Five, School: Barton (N = 8)										
Reading	173.6	8.2	188.6	17.3	15.0	1.05	3.1	4.0	27.0	36.0
Mathematics	187.0	12.0	197.6	33.0	10.6	0.40	3.9	4.6	35.5	25.5
Grade Five, School: Brunson (N = 7)										
Reading	191.4	8.4	194.1	19.4	2.7	0.17	4.1	4.3	40.0	40.0
Mathematics	213.1	27.5	219.0	32.5	5.9	0.18	5.7	6.2	63.0	50.0
Grade Five, School: Cather (N = 2)										
Reading	175.0	33.9	171.0	33.9	-4.0	-0.07	3.1	2.9	26.0	21.5
Mathematics	206.5	17.7	196.0	14.1	-10.5	-0.37	5.3	4.5	50.5	37.0
Grade Five, School: CICS - Bucktown (N = 5)										
Reading	192.0	36.2	215.8	27.3	23.8	0.67	4.2	6.0	40.0	50.0
Mathematics	231.4	42.9	252.2	44.6	20.8	0.43	7.1	9.0	63.0	93.0
Grade Five, School: CICS - Irving Park (N = 8)										
Reading	180.8	10.8	202.4	18.2	21.6	1.37	3.5	4.9	32.5	41.0
Mathematics	168.8	10.1	235.6	33.9	66.9	2.53	2.8	7.5	18.0	60.5
Grade Five, School: CICS - Wrightwood (N = 3)										
Reading	172.0	24.1	175.7	27.9	3.7	0.11	3.0	3.2	25.0	15.0
Mathematics	174.0	17.3	177.0	21.5	3.0	0.12	3.1	3.2	13.0	22.0
Grade Five, School: Corkery (N = 3)										
Reading	187.0	14.7	191.3	13.1	4.3	0.25	3.9	4.1	34.0	31.0
Mathematics	231.0	6.9	209.0	32.8	-22.0	-0.74	7.1	5.4	66.0	50.0
Grade Five, School: Emmet (N = 6)										
Reading	165.7	5.0	174.0	8.2	8.3	1.14	2.7	3.1	17.5	19.0
Mathematics	177.5	9.2	181.3	4.7	3.8	0.49	3.3	3.5	29.0	23.5
Grade Five, School: Falconer (N = 21)										
Reading	190.3	19.0	197.4	23.3	7.1	0.33	4.1	4.6	36.0	42.0
Mathematics	226.1	34.4	246.1	39.6	20.0	0.53	6.7	8.4	63.0	71.0

Table 35 continues on next page



Table 35, continued

ITBS Subtest	SS <i>M</i> Pre	SS <i>SD</i> Pre	SS <i>M</i> Post	SS <i>SD</i> Post	<i>M</i> Diff	E.S. ( <i>d</i> )	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Five, School: Graham ( <i>N</i> = 4)										
Reading	185.3	26.2	200.8	25.7	15.5	0.52	3.8	4.8	30.5	40.5
Mathematics	190.5	22.1	196.3	19.1	5.8	0.24	4.1	4.5	39.0	34.0
Grade Five, School: Guggenheim ( <i>N</i> = 12)										
Reading	186.3	14.7	190.8	15.1	4.4	0.29	3.9	4.1	38.0	33.5
Mathematics	205.6	25.8	203.5	23.8	-2.1	-0.08	5.2	5.0	47.5	38.5
Grade Five, School: Herzl ( <i>N</i> = 1)										
Reading	214.0	.	231.0	.	17.0	na	5.8	7.1	56.0	62.0
Mathematics	289.0	.	289.0	.	0.0	na	13+	13+	99.0	99.0
Grade Five, School: Linne ( <i>N</i> = 4)										
Reading	168.8	12.3	169.8	7.9	1.0	0.08	2.8	2.9	15.0	14.5
Mathematics	184.8	13.6	189.0	7.6	4.3	0.34	3.7	4.0	34.0	34.0
Grade Five, School: Manierre ( <i>N</i> = 4)										
Reading	179.5	11.1	189.0	16.5	9.5	0.59	3.4	4.0	28.0	33.0
Mathematics	190.0	15.0	209.3	22.0	19.3	0.89	4.1	5.4	35.5	45.0
Grade Five, School: McNair ( <i>N</i> = 2)										
Reading	184.5	14.8	167.0	9.9	-17.5	-0.78	3.8	2.7	33.5	13.0
Mathematics	187.0	32.5	200.5	26.2	13.5	0.26	3.9	4.8	33.5	39.0
Grade Five, School: Sherman ( <i>N</i> = 2)										
Reading	179.5	21.9	193.0	2.8	13.5	0.49	3.4	4.3	28.5	35.0
Mathematics	176.5	30.4	240.5	48.8	64.0	0.89	3.2	7.9	25.5	69.0
Grade Five, School: Waters ( <i>N</i> = 4)										
Reading	171.3	10.6	185.3	15.0	14.0	0.94	2.9	3.8	17.0	32.5
Mathematics	182.0	5.7	223.8	11.9	41.8	3.90	3.5	6.5	29.0	56.0
Grade Five, School: Westcott ( <i>N</i> = 1)										
Reading	191.0	.	167.0	.	-24.0	na	4.1	2.7	40.0	10.0
Mathematics	202.0	.	159.0	.	-43.0	na	4.9	2.2	47.0	7.0

Table 36: Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade Six Students Served by Brain Hurricane within the Chicago Public Schools by School Attended, 2008-2009

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Six, School: Armstrong G (N = 7)										
Reading	200.6	18.2	204.1	23.8	3.6	0.16	4.8	5.0	36.0	37.0
Mathematics	231.3	30.4	251.6	44.7	20.3	0.49	7.1	9.0	53.0	80.0
Grade Six, School: Barton (N = 2)										
Reading	182.5	12.0	184.5	9.2	2.0	0.11	3.7	3.8	24.0	20.5
Mathematics	198.0	22.6	187.0	45.3	-11.0	-0.17	4.6	3.9	34.5	26.0
Grade Six, School: Brunson (N = 4)										
Reading	182.5	29.0	185.0	34.2	2.5	0.07	3.7	3.8	24.0	23.5
Mathematics	195.5	38.7	216.0	52.5	20.5	0.39	4.5	6.0	21.0	31.0
Grade Six, School: Cather (N = 4)										
Reading	162.0	21.3	187.3	20.5	25.3	1.05	2.4	3.9	7.0	21.5
Mathematics	171.8	12.4	210.5	22.9	38.8	1.82	3.0	5.5	13.0	36.5
Grade Six, School: CICS - Bucktown (N = 1)										
Reading	174.0	.	178.0	.	4.0	na	3.1	3.3	17.0	15.0
Mathematics	198.0	.	239.0	.	41.0	na	4.6	7.7	36.0	57.0
Grade Six, School: CICS - Washington Park (N = 3)										
Reading	179.7	27.9	189.7	25.1	10.0	0.30	3.4	4.1	17.0	17.0
Mathematics	209.3	20.3	206.3	18.8	-3.0	-0.12	5.4	5.2	50.0	39.0
Grade Six, School: CICS - West Belden (N = 4)										
Reading	184.8	22.1	199.3	30.7	14.5	0.47	3.8	4.7	25.5	32.5
Mathematics	210.0	55.5	216.3	32.9	6.3	0.12	5.5	6.0	34.5	37.5
Grade Six, School: CICS - Wrightwood (N = 1)										
Reading	167.0	.	181.0	.	14.0	na	2.7	3.5	10.0	17.0
Mathematics	186.0	.	164.0	.	-22.0	na	3.8	2.5	26.0	7.0
Grade Six, School: Corkery (N = 3)										
Reading	186.0	15.1	186.3	5.0	0.3	0.02	3.9	3.9	23.0	23.0
Mathematics	234.7	17.2	243.7	39.3	9.0	0.24	7.4	8.2	58.0	47.0
Grade Six, School: Delano (N = 1)										
Reading	167.0	.	170.0	.	3.0	na	2.7	2.9	10.0	7.0
Mathematics	223.0	.	253.0	.	30.0	na	6.5	9.1	53.0	65.0

Table 36 continues on next page

Table 36, continued

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Six, School: Emmet (N = 3)										
Reading	171.7	16.9	184.7	21.5	13.0	0.54	3.0	3.8	7.0	29.0
Mathematics	198.0	12.0	210.3	28.5	12.3	0.45	4.6	5.5	36.0	39.0
Grade Six, School: Falconer (N = 13)										
Reading	190.5	15.9	196.9	17.8	6.4	0.37	4.1	4.6	34.0	29.0
Mathematics	226.8	23.4	239.6	33.6	12.8	0.43	6.7	7.8	55.0	60.0
Grade Six, School: Faraday (N = 5)										
Reading	179.6	14.8	190.8	13.4	11.2	0.72	3.4	4.1	25.0	23.0
Mathematics	192.4	8.3	210.6	19.1	18.2	1.12	4.2	5.5	33.0	47.0
Grade Six, School: Graham (N = 1)										
Reading	222.0	.	218.0	.	-4.0	na	6.4	6.1	52.0	45.0
Mathematics	289.0	.	289.0	.	0.0	na	13+	13+	99.0	93.0
Grade Six, School: Guggenheim (N = 12)										
Reading	197.9	19.9	203.7	25.5	5.8	0.24	4.6	5.0	32.5	33.0
Mathematics	224.8	36.5	218.7	37.2	-6.2	-0.16	6.6	6.2	50.5	36.5
Grade Six, School: Jenner (N = 1)										
Reading	151.0	.	170.0	.	19.0	na	1.9	2.9	7.0	7.0
Mathematics	214.0	.	202.0	.	-12.0	na	5.8	4.9	46.0	34.0
Grade Six, School: Linne (N = 6)										
Reading	215.5	29.3	212.5	47.8	-3.0	-0.07	6.0	5.7	47.0	34.0
Mathematics	221.7	40.9	216.5	42.0	-5.2	-0.12	6.4	6.0	48.0	27.5
Grade Six, School: Manierre (N = 4)										
Reading	172.8	5.5	197.0	24.3	24.3	1.20	3.0	4.6	13.0	27.0
Mathematics	193.0	22.0	213.0	38.4	20.0	0.55	4.3	5.7	29.5	40.0
Grade Six, School: McKay (N = 2)										
Reading	195.5	44.5	214.0	11.3	18.5	0.32	4.5	5.8	31.0	42.0
Mathematics	210.5	40.3	226.0	28.3	15.5	0.25	5.5	6.7	42.5	48.0
Grade Six, School: Sherman (N = 1)										
Reading	178.0	.	195.0	.	17.0	na	3.3	4.4	20.0	29.0
Mathematics	194.0	.	227.0	.	33.0	na	4.4	6.7	33.0	50.0
Grade Six, School: Waters (N = 2)										
Reading	186.0	7.1	201.0	2.8	15.0	1.57	3.9	4.8	27.0	33.5
Mathematics	202.5	23.3	208.0	8.5	5.5	0.18	4.9	5.3	38.0	38.0

Table 37: Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade Seven Students Served by Brain Hurricane within the Chicago Public Schools by School Attended, 2008-2009

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Seven, School: Armstrong G (N = 4)										
Reading	194.8	18.7	201.0	16.0	6.3	0.31	4.4	4.8	29.5	28.5
Mathematics	236.3	39.6	231.3	9.5	-5.0	-0.15	7.5	7.1	47.5	45.5
Grade Seven, School: Barton (N = 4)										
Reading	211.0	22.1	218.8	31.1	7.8	0.25	5.5	6.1	39.5	42.5
Mathematics	234.5	53.5	229.8	42.7	-4.8	-0.09	7.4	7.0	48.5	48.0
Grade Seven, School: Brunson (N = 1)										
Reading	195.0	.	173.0	.	-22.0	na	4.4	3.0	27.0	7.0
Mathematics	248.0	.	205.0	.	-43.0	na	8.6	5.1	59.0	31.0
Grade Seven, School: Cather (N = 3)										
Reading	176.3	6.4	177.7	7.8	1.3	0.15	3.2	3.3	15.0	10.0
Mathematics	183.7	36.7	215.3	21.5	31.7	0.84	3.6	5.9	7.0	38.0
Grade Seven, School: CICS - West Belden (N = 1)										
Reading	187.0	.	205.0	.	18.0	na	3.9	5.1	20.0	30.0
Mathematics	213.0	.	287.0	.	74.0	na	5.7	13+	39.0	77.0
Grade Seven, School: Emmet (N = 2)										
Reading	200.0	12.7	201.5	4.9	1.5	0.09	4.8	4.9	30.0	27.5
Mathematics	234.0	11.3	264.0	0.0	30.0	2.12	7.4	10.3	51.5	63.0
Grade Seven, School: Faraday (N = 1)										
Reading	176.0	.	180.0	.	4.0	na	3.2	3.4	10.0	10.0
Mathematics	172.0	.	180.0	.	8.0	na	3.0	3.4	7.0	7.0
Grade Seven, School: Graham (N = 2)										
Reading	194.5	20.5	207.5	23.3	13.0	0.33	4.4	5.3	25.5	30.5
Mathematics	211.0	14.1	250.5	34.6	39.5	0.84	5.5	8.9	37.5	56.0
Grade Seven, School: Guggenheim (N = 12)										
Reading	199.9	15.9	209.3	20.7	9.4	0.49	4.8	5.4	28.0	32.0
Mathematics	221.3	52.4	229.8	38.9	8.5	0.18	6.3	7.0	25.0	38.0
Grade Seven, School: Lawndale (N = 2)										
Reading	206.0	21.2	220.5	51.6	14.5	0.21	5.2	6.3	34.0	38.5
Mathematics	238.0	24.0	208.5	31.8	-29.5	-0.59	7.7	5.4	53.5	29.5

Table 37 continues on next page

Table 37, continued

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Seven, School: Linne (N = 3)										
Reading	177.7	4.0	209.7	22.3	32.0	1.59	3.3	5.4	15.0	40.0
Mathematics	184.3	16.0	214.3	23.1	30.0	1.20	3.6	5.8	15.0	38.0
Grade Seven, School: McNair (N = 2)										
Reading	192.5	23.3	201.5	4.9	9.0	0.30	4.3	4.9	23.0	27.5
Mathematics	170.5	7.8	186.5	4.9	16.0	1.38	2.9	3.9	7.0	13.5
Grade Seven, School: Waters (N = 2)										
Reading	180.0	5.7	180.0	5.7	0.0	0.00	3.4	3.4	14.5	11.0
Mathematics	185.0	7.1	184.5	2.1	-0.5	-0.05	3.7	3.7	17.5	11.5
Grade Seven, School: Wentworth (N = 1)										
Reading	152.0	.	180.0	.	28.0	na	1.9	3.4	7.0	10.0
Mathematics	221.0	.	221.0	.	0.0	na	6.3	6.3	44.0	40.0

Table 38: Pre- and Posttest Performance on the Iowa Test of Basic Skills for All Grade Eight Students Served by Brain Hurricane within the Chicago Public Schools by School Attended, 2008-2009

ITBS Subtest	SS M Pre	SS SD Pre	SS M Post	SS SD Post	M Diff	E.S. (d)	G.E. Pre	G.E. Post	N.C.E. Pre	N.C.E. Post
Grade Eight, School: Brunson (N = 4)										
Reading	192.8	10.3	188.0	7.4	-4.8	-0.46	4.3	4.0	20.5	13.0
Mathematics	217.3	7.7	203.8	17.7	-13.5	-0.86	6.0	5.0	35.5	23.5
Grade Eight, School: CICS - Wrightwood (N = 4)										
Reading	207.3	26.1	204.3	21.1	-3.0	-0.11	5.3	5.0	27.0	26.0
Mathematics	236.8	48.8	241.3	46.3	4.5	0.08	7.6	7.9	39.5	40.5
Grade Eight, School: Corkery (N = 2)										
Reading	170.0	8.5	168.5	6.4	-1.5	-0.11	2.9	2.8	7.0	7.0
Mathematics	219.5	9.2	195.5	7.8	-24.0	-1.59	6.2	4.5	37.0	17.5
Grade Eight, School: Faraday (N = 1)										
Reading	176.0	.	176.0	.	0.0	na	3.2	3.2	7.0	7.0
Mathematics	176.0	.	176.0	.	0.0	na	3.2	3.2	7.0	7.0
Grade Eight, School: Graham (N = 2)										
Reading	218.5	33.2	211.0	2.8	-7.5	-0.18	6.1	5.5	35.5	28.5
Mathematics	198.5	26.2	205.5	36.1	7.0	0.13	4.7	5.2	21.5	24.0
Grade Eight, School: Guggenheim (N = 18)										
Reading	194.1	18.3	201.1	21.9	7.0	0.34	4.3	4.8	20.5	19.0
Mathematics	231.7	36.8	234.1	34.6	2.3	0.06	7.2	7.4	42.5	39.5
Grade Eight, School: Manierre (N = 1)										
Reading	195.0	.	202.0	.	7.0	na	4.4	4.9	22.0	23.0
Mathematics	193.0	.	221.0	.	28.0	na	4.3	6.3	19.0	35.0
Grade Eight, School: McKay (N = 4)										
Reading	198.8	23.9	224.0	29.7	25.3	0.81	4.7	6.6	24.0	36.0
Mathematics	206.5	26.4	288.0	23.6	81.5	2.83	5.3	13+	30.0	74.5
Grade Eight, School: Westcott (N = 3)										
Reading	203.3	20.0	197.0	33.0	-6.3	-0.19	5.0	4.6	26.0	7.0
Mathematics	190.3	52.5	212.3	87.6	22.0	0.24	4.1	5.6	31.0	22.0