

STREATOR TWP HIGH SCHOOL DISTRICT #40  
600 NORTH JEFFERSON STREET  
STREATOR, IL. 61364

## Adding the **Weaver Reading Intervention Program** Supercharged Streator High School's Freshman and Sophomore Reading Performance

### Premise

A student's academic success hinges on his/her ability to read effectively. The earlier a student master's the basic reading skills, the stronger the foundation they have for future success. Students who can read well and efficiently have an easier time achieving academic success, which can translate into future personal success beyond academic studies. No one curriculum model or program yet developed can cover all the variables involved in learning to read. However, unlike traditional manufactured reading curriculum, the Weaver Reading Intervention Program is based on the philosophy that students must be taught how to comprehend before trying to do practice lessons rather than just providing practice lessons. And, that new words are learned through repetitive usage and exposure instead of single exposure to an isolated word.

### Streator Twp High School Demographics

Streator Township High School is a comprehensive high school with programs for students of all ability levels and career interests. Total enrollment is 967 students, 88.2%, 2.1% and 9.1% are White, Black and Hispanic respectively. Twenty-six percent are classified as low income. The high school graduation rate is 72.2%. with a dropout rate of 5.8%. Fifty-four percent of the student body taking the PSAE (Prairie State Achievement Test) mandated by the State Legislature are "Below Standards" in reading achievement (2001 Illinois School Report Card accessed 8/23/02, State Board of Education website).

### Method

#### Subjects:

Fifty-seven incoming freshman were selected to participate in the new Streator High School study both years. Fourteen and fifteen sophomore students were selected to participate during the 2001-02 and 2000-01 academic school year, respectively. Differences between the freshman and sophomore subject enrollment figures are due to either their improved academic performance or migration to other school districts.

#### Instruction:

Freshman and sophomore Title 1 students used the Weaver Reading Intervention Program on average two (2) hours per week for thirty-four (34) weeks prior to the post-test. In addition, a number of other reading programs were incorporated into the reading instruction process considered, for purposes here, as the traditional reading curriculum of Streator High School.

#### Analysis:

All students were pre-tested in the Spring of the previous year and post-tested in the Spring of the current year using the Gates-MacGinitie Reading Test. Raw scores were converted into Normal Curve Equivalents (NCEs), Percentiles and Grade Equivalents (GE). The two-tailed paired-t statistic was used to determine the significance of pre-/post-test mean differences due to instruction at a P-value of 0.05 for both 9<sup>th</sup> and 10<sup>th</sup> grade Title 1 students during both the 2000-01 and 2001-02 academic school years.

### Results

#### 2001-02 Academic School Year Student Scores Expressed in Normal Curve Equivalents (NCE)

<u>Paired t-statistics</u>	<u>9<sup>th</sup> Vocabulary</u>	<u>9<sup>th</sup> Comprehension</u>	<u>10<sup>th</sup> Vocabulary</u>	<u>10<sup>th</sup> Comprehension</u>
N	57	57	14	14
Mean Difference	13.508772	9.596491	22.357143	15.714286
Standard Deviation	13.188364	13.709824	19.073167	13.853234
Standard Error	1.746842	1.815911	5.097518	3.702432
Degree of Freedom	56	56	13	13
t-value	7.733255	5.284672	4.385888	4.244314
Lower Control Limit	10.009428	5.958785	11.344624	7.715667
Upper Control Limit	17.008116	13.234197	33.369662	23.712905
P-value	0.0001	0.0001	0.0007	0.001

2000-01 Academic School Year Student Scores Expressed in Normal Curve Equivalents (NCE)

<u>Paired t-statistics</u>	<u>9<sup>th</sup> Vocabulary</u>	<u>9<sup>th</sup> Comprehension</u>	<u>10<sup>th</sup> Vocabulary</u>	<u>10<sup>th</sup> Comprehension</u>
N	57	57	14	15
Mean Difference	12.701754	10.77193	10.357143	7.733333
Standard Deviation	10.856145	8.375171	8.67895	6.385997
Standard Error	1.437932	1.109318	2.319547	1.648857
Degree of Freedom	56	56	13	14
t-value	8.833351	9.710404	4.465158	4.690117
Lower Control Limit	9.821231	8.549698	5.346066	4.196886
Upper Control Limit	15.582277	12.994162	15.368219	11.26978
P-value	0.0001	0.0001	0.0006	0.0003

Conversion Table Changing NCE Scores to Percentiles and Grade Equivalents

	2001-02 9 <sup>th</sup> Vocabulary			2001-02 9 <sup>th</sup> Comprehension			2001-02 10 <sup>th</sup> Vocabulary			2001-02 10 <sup>th</sup> Comprehension		
	<u>NCE</u>	<u>%-tile</u>	<u>GE</u>	<u>NCE</u>	<u>%-tile</u>	<u>GE</u>	<u>NCE</u>	<u>%-tile</u>	<u>GE</u>	<u>NCE</u>	<u>%-tile</u>	<u>GE</u>
<u>Mean Diff</u>	13.5	12.3	1.9	9.6	9.7	1.8	22.4	22.9	3.3	15.7	14.6	2.7
<u>P-value</u>	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0007	0.0025	0.0003	0.001	0.0129	0.0013
	2000-01 9 <sup>th</sup> Vocabulary			2000-01 9 <sup>th</sup> Comprehension			2000-01 10 <sup>th</sup> Vocabulary			2000-01 10 <sup>th</sup> Comprehension		
	<u>NCE</u>	<u>%-tile</u>	<u>GE</u>	<u>NCE</u>	<u>%-tile</u>	<u>GE</u>	<u>NCE</u>	<u>%-tile</u>	<u>GE</u>	<u>NCE</u>	<u>%-tile</u>	<u>GE</u>
<u>Mean Diff</u>	12.7	12.6	1.8	10.8	9.1	1.9	10.4	8.3	1.45	7.7	7.6	1.4
<u>P-value</u>	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0006	0.0021	0.0002	0.0003	0.0004	0.0001

The following inferential observations were made using the paired t-statistic, two-tailed null hypothesis and a P-value of 0.05:

1. The Freshman 2001-02 Title 1 participants significantly gained 13.5 Reading Vocabulary NCEs or 1.9 Grade Equivalents as a result of adding the Weaver Reading Intervention Program to the traditional Title 1 Reading Curriculum at a P-value of 0.0001.
2. The Freshman 2001-02 Title 1 participants significantly gained 9.6 Reading Comprehension NCEs or 1.8 Grade Equivalents as a result of adding the Weaver Reading Intervention Program to the traditional Title 1 Reading Curriculum at a P-value of 0.0001.
3. The Sophomore 2001-02 Title 1 participants significantly gained 22.4 Reading Vocabulary NCEs or 3.3 Grade Equivalents as a result of adding the Weaver Reading Intervention Program to the traditional Title 1 Reading Curriculum at a P-value of 0.0003.
4. The Sophomore 2001-02 Title 1 participants significantly gained 15.7 Reading Comprehension NCEs or 2.7 Grade Equivalents as a result of adding the Weaver Reading Intervention Program to the traditional Title 1 Reading Curriculum at a P-value of 0.0013.
5. The Freshman 2000-01 Title 1 participants significantly gained 12.7 Reading Vocabulary NCEs or 1.8 Grade Equivalents as a result of adding the Weaver Reading Intervention Program to the traditional Title 1 Reading Curriculum at a P-value of 0.0001.
6. The Freshman 2000-01 Title 1 participants significantly gained 10.8 Reading Comprehension NCEs or 1.9 Grade Equivalents as a result of adding the Weaver Reading Intervention Program to the traditional Title 1 Reading Curriculum at a P-value of 0.0001.
7. The Sophomore 2000-01 Title 1 participants significantly gained 10.4 Reading Vocabulary NCEs or 1.5 Grade Equivalents as a result of adding the Weaver Reading Intervention Program to the traditional Title 1 Reading Curriculum at a P-value of 0.0006.
8. The Sophomore 2000-01 Title 1 participants significantly gained 7.7 Reading Comprehension NCEs or 1.4 Grade Equivalents as a result of adding the Weaver Reading Intervention Program to the traditional Title 1 Reading Curriculum at a P-value of 0.0003.

**Conclusion:**

Freshman and sophomore Title 1 student mean-difference gains demonstrated positive significant differences at P-values below 0.05, the upper level cutoff for statistical significance acceptance. The Null Hypothesis is rejected in all cases; student gains are a result of blending the Weaver Reading Intervention Program with the traditional Streator High School Title 1 Language Arts Curriculum. Student group gains ranging from a low of 1.4 GE to a high of 3.3 GE with just 68 hours of instruction (2 hrs per week for 34 weeks) attests to the power of the Weaver Reading Intervention Program blend.

**Contact: Chuck Krazan, Title 1 Director, Streator High School District #40, 600 N. Jefferson, Streator, IL. 61364 Phone 815-672-0545.**