

MASSACHUSETTS IRLLEN PROJECT*

Pioneer Valley Study

A Study to Test the Effectiveness of Reading
With Irlen Colored Overlays for Students with
Irlen Syndrome/Scotopic Sensitivity

Reading scores for 30 fourth grade students were assessed with and without Irlen Colored Overlays. Results indicated mean gains in all areas measured at a very statistically significant level. Students included both regular education and special education students. The data was analyzed by Dr. Michael Sutherland, Director of the University of Massachusetts (Amherst) Statistical Consulting Center, using paired T tests and repeated measures ANOVAS. All categories evaluated in the design demonstrated statistically significant improvement in reading scores as follows:

<u>Mean Gains</u>	<u>After 2 Weeks of Use</u>	<u>After 3Months of Use</u>
Accuracy	p=<0001	p=<0.001
Comprehension	p=<0.002	p=<0.001
Rate	p=<0.001	p=<0.001
Passage Fluency	p=<0.001	p=<0.001

IMPLEMENTATION AT SCHOOL AND DISTRICT LEVEL Recommended by the Massachusetts Irlen Project

The following sequence of steps is recommended for effective implementation of an Irlen Screening Program at school and district levels:

- Introduction to entire staff regarding Irlen Syndrome
- Screen all teachers who show symptoms so they can serve as role models
- Parents Meeting to introduce concept of Irlen Syndrome
- Have permission slips signed by parents of children to be screened
- Group pre-screening to identify individuals in class with Irlen Syndrome symptoms
(questionnaire administered with overhead projector in classroom - 20 minutes)
(allows the screener to screen the students with most severe symptoms first)
- Report results to the classroom teachers
- Enter results in district-wide Irlen database
- Obtain check list from classroom teacher on students' use of overlays
- Administer routine 5-10 minute follow-up with students using overlays as needed

CRITERIA FOR TRAINEE SELECTION

It is important that those selected to be trained as screeners not have full-time classroom responsibilities to allow them the time to effectively implement a screening program. Additional requirements for participant selection include:

- | | |
|----------------------------------|---------------------------------|
| Credentials in education | Reading Specialist |
| Counselor | Speech and Language Pathologist |
| School Psychologist School Nurse | Title I Coordinator |
| Occupational Therapist | |

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For more information, contact:
Massachusetts Irlen Project Director, Elsie Dorain 781/416-9834 ph./fax

The first hypothesis that properly selected Irlen colored overlays can be an effective intervention tool for those diagnosed with SS/TS was proven. Highly statistically significant results were found for all groups. All students in the group, regardless of their initial reading ability, demonstrated clearly significant improvement in accuracy and/or comprehension test scores after using their properly selected Irlen colored overlay for 3- 3.5 months, as shown in the tables below

Table 1
Accuracy
Mean Gains in Scores

		After Two Weeks	After 3-3.5 Months
Below grade level	(N=15)	1.4 yrs	1.9 yrs
Barely Grade Level	(N=3)	0.6 yrs.	2.3 yrs
Grade Level	(N=9)	1.5 yrs	3.3 yrs.
Above Grade Level	(N=3)	0.6 yrs	4.3 yrs.
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Special Education	(N=15)	1.1 yrs	2.0 yr
Non Special Education	(N=15)	1.4 yrs	3.3 yrs

Comprehension
Mean Gains in Scores

		After Two Weeks	After 3-3.5 Months
Below grade level	(N=15)	1.6 yrs	1.9 yrs
Barely Grade Level	(N=3)	0.7 yrs.	3.7 yrs
Grade Level	(N=9)	0.6 yrs	1.7 yrs.
Above Grade Level	(N=3)	3.0 yrs	4.4 yrs.
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Special Education	(N=15)	1.7 yrs	2.3 yr
Non Special Education	(N=15)	1.1 yrs	2.2 yrs

Rate
Mean Gains in Scores

		After Two Weeks	After 3-3.5 Months
Below grade level	(N=15)	0.7 yrs	0.6 yrs
Barely Grade Level	(N=3)	1.0 yrs.	1.0 yrs
Grade Level	(N=9)	0.7 yrs	1.0 yrs.
Above Grade Level	(N=3)	0.4 yrs	0.4 yrs.
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Special Education	(N=15)	0.5 yrs	0.6 yrs.
Non Special Education	(N=15)	0.9 yrs	0.9 yrs

Passage Fluency
Mean Gains in Scores

		After Two Weeks	After 3-3.5 Months
Below grade level	(N=15)	1.0 yrs	1.2 yrs
Barely Grade Level	(N=3)	0.9 yrs.	1.5 yrs
Grade Level	(N=9)	1.1 yrs	1.9 yrs.
Above Grade Level	(N=3)	0.5 yrs	2.0 yrs.
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Special Education	(N=15)	0.9 yrs	1.2 yr
Non Special Education	(N=15)	1.1 yrs	1.8 yrs

In addition:

One hundred percent of the 30 students in the study demonstrated significant improvement in accuracy and/or comprehension. Mean increases were 2.6 years in accuracy and 2.3 years in comprehension within 3.5 months of receiving the appropriate Irlen colored overlays. Most increases ranged from 7 months to 5.4 years.