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ABSTRACT

This study evaluated the practice of sustained silent reading (SSR) on the reading comprehension and word recognition skills of 12 third and fourth grade students with learning disabilities. The intervention involved 10 minutes daily of SSR over a 6-month period in the context of 30 minutes daily of reading instruction from a learning support teacher. Students also recorded on a log their response to their reading and, once a week, talked about and shared their books. Six control subjects received the same amount of reading instruction without SSR. A significant level of change was noted for the experimental group in reading words in context and comprehending reading material at both the implicit and explicit levels. No significant change was noted in word recognition. (Contains 11 references.) (DB)

Running head: SSR: IS IT AN EFFECTIVE PRACTICE?

SSR: Is It an Effective Practice for the Learning Disabled?

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SSR: Is It an Effective Practice for the Learning Disabled?

Many previous studies have attempted to link Sustained Silent Reading to increased reading achievement. Many of the experiments were conducted over a short time period and used an inadequate definition of SSR. SSR, like whole language itself, has evolved over the years into much more than having a student read silently for ten minutes. In addition, no study has specifically addressed the learning impaired student. As a teacher of learning disabled students, I believe SSR is an effective practice. This study attempted to establish a link between SSR and reading comprehension and word recognition scores.

Recently a small revolution has occurred in the reading classroom. Many educators have abandoned the traditional practices for a more holistic approach- whole language. Within the whole language perspective, there are many components. One component of the whole language perspective is SSR or sustained silent reading. Many studies have been done concerning SSR. In order to review the effectiveness of SSR, Manning-Dowd (1985) suggested two areas of concern for the educator- reading attitude and reading achievement.

Many studies have been conducted to ascertain the effect of SSR on reading achievement with mixed results. On the positive side, Manning-Dowd (1985) reported on studies by

Kefford (1981), Bartello (1979), Burton (1983) and Aranha (1985). Kefford noted the largest gain in reading achievement. His students had an increase of 4% in reading comprehension and a 7% increase in word recognition. Bartello, Burton and Aranha noted smaller gains. Another study by Weisendanger (1989) reported significantly higher gains in both areas when SSR was combined with systematic skills instruction. She concluded the students were using the SSR as a time of practice for the skill instruction. In a study with fourth grade students, Hernandez-Miller (1991) noted an increase in comprehension skills related to reader response to the text. Reutzel (1991) noted neither a positive or negative effect on the reading comprehension skills of sixth graders after ten weeks of SSR. On the negative side, Sadoski (1982) reported on studies by Kochinski (1980) and Vacca (1976) which noted no improvement in reading achievement. In another study, Everett (1987) reported no increase in reading achievement after three weeks of SSR. Wiesendanger (1984) noted in an overview of the literature that those findings which noted no effect were shorter than six months. The studies conducted beyond six months found an improvement in reading achievement. She hypothesized the benefits of SSR may be long term; therefore, a longer study would be necessary to note benefits.

Many studies have also been conducted to measure the effect of SSR on the reading attitudes of students. Educators believed if student attitude was improved through SSR, long term

benefits would be gained. For the most part, the studies reported an improvement in reading attitude after SSR. Manning-Dowd (1985) reviewed studies by Bartello (1979), Burton (1983) and Aranha (1985). She noted positive attitude increases after SSR- particularly among elementary age children. A negative attitude was noted only by Dwyer (1989). He reported a negative attitude among junior high boys-not girls. He hypothesized in America reading is viewed by males as a feminine activity. He quoted a similar study done in Germany where gains were noted by both junior high boys and girls. In Germany, reading was a valued activity by German males. He hypothesized the results of his study were cultural rather than a failure of SSR. Finally, Wiesendanger (1989) researched the effect of SSR on the recreational reading habits of students through the summer. She believed summer reading would increase after a full year of SSR. She linked improved attitude to the increase in recreational reading. She studied three reading groups-above average, average and below average. Wiesendanger reported increased gains in recreational reading in all groups as opposed to the control groups which did not receive SSR.

None of the studies included an accurate account of the current definition of SSR. As SSR has evolved within the whole language curriculum, the following components have been included: self-selected reading material, uninterrupted period

of reading, the teacher reading along with the students and the sharing of books after reading was finished. According to Hilbert (1993), the sharing of books is an important aspect of SSR. It not only shows enjoyment of books but increases the enthusiasm for books. Through sharing, low achievers have a higher success rate of learning. They become familiar with a book's plot and unique vocabulary. This enabled them to read with increased ease and comprehension. None of the studies included a comprehensive definition of SSR which included the shared book concept.

In addition, no studies were found dealing specifically with learning disabled students. Only one researcher, Weisendanger (1989), even considered the below-average reader (reading one grade level below their grade placement). She concluded a full year of SSR improved the summer recreational reading habits of the below-average reader.

Several important questions concerning SSR, have not been researched. Would SSR be effective in increasing reading achievement with the shared book time afterwards? Is SSR when combined with skill instruction an effective tool for the learning disabled? Finally, are long term studies of six months or more necessary to show increases in reading achievement?

Operational Definitions

Sustained Silent Reading or SSR

An uninterrupted time of ten to fifteen minutes in which the student reads self-selected materials. The teacher reads self-selected reading materials along with the students. The silent reading is followed by a time to share the readings with the class. Hilbert (1993). For those just beginning to read the time is divided by listening to a book read by the teacher and practice reading the book themselves. McCracken (1993).

Learning Disabled

A chronic condition of presumed neurological origin which selectively interferes with the development, integration or demonstration of language, spoken or written or of non-verbal abilities. The condition manifests itself as a severe discrepancy between achievement and intellectual ability in one or more of the following areas:

(i) Oral expression;

(ii) Listening comprehension;

(iii) Written expression;

(iv) Basic reading skill;

(v) Reading comprehension;

(vi) Mathematics calculation; or

(vii) Mathematics reasoning.

The condition is not synonymous with underachievement. The condition includes specific deficits in receptive and expressive language and deficiencies in initiating or sustaining attention, impulsivity, and other specific and conceptual and thinking difficulties, such as non-verbal reasoning, integrating problems, motor coordination and social perceptions. Examples of the condition include minimal brain dysfunction, dyslexia, and developmental aphasia, provided that the evaluation clearly indicates that the person can demonstrate normal or above normal intellectual functioning on an appropriate measure of intelligence. Learning conditions which are primarily the results of sensory impairment, physical disability, mental retardation, emotional factors or environmental, cultural, or economic disadvantage are not specific learning disabilities. Determination of the learning disability shall include a full assessment and comprehensive report by a certified school psychologist specifying the nature and the degree of the disability. (Pennsylvania Dept. of Education, 1990)

Learning Support Class

A class for exceptional students whose primary functional need is academic learning. (Pennsylvania Dept.of Education, 1990)

Qualitative Reading Inventory

A diagnostic tool used to study the behaviors of a learner in a reading situation. It is structured using word lists and comprehension passages. The Qualitative Reading Inventory offers information concerning a student's word recognition ability and comprehension. To attain the information, expository passages, goal-based passages, retellings and assessments of prior knowledge are used. Leslie (1990).

Hypothesis

Third and fourth grade learning disabled students receiving Sustained Silent Reading daily for six months will increase their reading comprehension and word recognition scores (as measured by the Qualitative Reading Inventory) to a significant difference above a control group of third and fourth grade learning disabled students receiving no SSR.

Null hypothesis

There will be no significant difference in the QRI reading comprehension and word recognition scores of learning disabled students in the third and fourth grade receiving daily SSR versus the control group of third and fourth grade mildly impaired students receiving no SSR.

Method

Participants

The participants were students in the third and fourth grade learning support room at a rural elementary school. The population included six males and six females. They ranged in age from 8 years 1 months to 10 years 8 months. They had been identified as learning disabled by a school psychologist based upon scores from the WISC-III, the Wide Range Achievement Test, Weschler Individual Achievement Test and The Woodcock-Johnson Psychoeducational Battery. IQ scores ranged from 81 to 122. They had been placed in the learning support classroom after individual Comprehensive Evaluation Reports determined their reading needs could not be met in a regular education classroom. The control population consisted of three males and three females. The mean IQ was 99. The mean age was nine years seven months. The experimental population included three males and three females. The mean IQ was 90 with the mean age being nine years seven months. (See Tables 1 and 2).

Table 1

CONTROL POPULATION

SUBJECT	GENDER	IQ	AGE
1	M	99	9YR.4MOS.
2	M	122	8YR.1MOS.
3	M	102	10YR.6MOS.
4	F	95	9YR.10MOS.
5	F	92	10YR.2MOS.
6	F	83	9YR.10MOS.
MEAN		99	9YR.7MOS.

Note. IQ scores determined by a school psychologist using the WISC-IIIR.

Table 2

EXPERIMENTAL GROUP

SUBJECT	GENDER	IQ	AGE
1	F	90	10YR.4MOS.
2	M	84	10YR.0MOS.
3	F	89	8YR.7MOS.
4	M	92	9YR.3MOS.
5	F	104	9YR.1MO.
6	M	81	9YR.5MOS.
MEAN		90	9YR.7MOS.

Note. IQ scores were determined by a school psychologist using the WISC-IIIR.

Techniques

A quasi-experimental design was used involving an experimental and a control group. A pretest/posttest non equivalent control group was implemented using the Qualitative Reading Inventory (QRI) as the scoring instrument. The Qualitative Reading Inventory measured word recognition scores from sight word lists and within context of graded reading passages. It also measured reading comprehension using both explicit and implicit questions. The Qualitative Reading Inventory was selected to determine word recognition from lists and in context along with oral reading comprehension. Although it was a comprehensive test, it was also subjective in nature. The examiner has used the test for two years and audio taped the sessions. The examiner reviewed the tapes to rescore and find possible errors in scoring. Although the test was subjective in nature, the review of the tapes eliminated possible scoring errors thus increasing the validity of the results. Another examiner reviewed the tapes and the greatest deviation between scores was .02. The Qualitative Reading Inventory has several reading passages per grade level thus eliminating test drift from the pretest to the posttest.

Because the QRI assigned a reading level and not number values, QRI scores were translated into a numerical value. Word list scores were scored by the total number of correctly

identified words. Oral passage levels were given the following value: Preprimer-0, Primer-1, First grade-2, Second grade-3, Third grade-4. Then, the percentage of acceptability score from the oral reading passage was changed to a decimal value and added to this score. The comprehension value was scored similarly using the comprehension percentage added to the numerical value for the grade level rather than the acceptability percentage. Thus a student reading at the primer level with an acceptability of 97% received a numerical value of 1.97.

Research Steps

Pretest phase. The phase lasted three weeks. During the three weeks, each subject in each group was given the Qualitative Reading Inventory. Because the QRI is a comprehensive test, it took approximately one to two hours to give and score. In addition, the three week time period allowed the new third grade students to become acclimated to the teacher, schedule and expectations of the learning support room.

After the tests were scored, a mean for both groups was determined. The control group's mean scores were: word recognition- 74, acceptability level- 2.28 and comprehension level-2.10. (See Table 3,4,5). The experimental mean scores were computed as: word recognition-90, acceptability level-2.37 and comprehension-2.10. (See Table 3,4,5).

Table 3

Word Recognition Scores

	Control Group			Experimental Group		
Subject	Pre test	Post test	Difference	Pre test	Post test	Difference
1	46	99	53	134	149	15
2	16	38	22	119	127	8
3	121	150	29	113	142	29
4	127	155	28	57	111	54
5	127	153	26	78	104	26
6	8	11	3	101	131	30
MEAN	74	101	27	100	127	27

Table 4

Acceptability Scores

	Control Group			Experimental Group		
Subject	Pre test	Post test	Difference	Pre test	Post test	Difference
1	0.85	1.94	1.09	3.93	4.96	1.03
2	0.0	0.92	.92	1.96	2.98	1.02
3	4.94	4.96	.05	3.97	5.96	1.99
4	3.94	5.96	2.02	0.94	2.92	1.98
5	3.95	4.95	1.00	1.78	2.92	1.14
6	0.0	0.87	.87	1.96	4.96	3.00
MEAN	2.28	3.27	.99	2.42	4.12	1.70

Table 5

Comprehension Scores

	Control Group			Experimental Group		
Subject	Pre test	Post test	Difference	Pre test	Post test	Difference
1	0.50	2.00	1.50	3.00	5.00	2.00
2	0.00	1.00	1.00	1.67	3.00	1.33
3	4.88	4.75	-.13	3.63	5.63	2.00
4	3.86	5.88	2.02	0.50	2.66	2.16
5	3.38	5.00	1.62	2.00	2.50	.50
6	0.0	0.80	.80	1.89	4.63	2.74
MEAN	2.10	3.24	1.14	2.10	3.90	1.80

Treatment Phase. The treatment phase lasted six months. During the treatment phase both groups received similar reading instruction from the learning support teacher. For the control group, reading instruction included thirty minutes a day of a directed reading activity. The activities were: building background knowledge, vocabulary instruction, silent and oral reading of trade books, comprehension activities and response writing to the readings. Comprehension activities included questions from the literal, interpretive and applied level, retellings of the story and an understanding of the story grammar. The control group did not participate in SSR. The experimental group received twenty minutes of the directed reading activity and participated in SSR. SSR for each student in the experimental group consisted of: 10 minutes of daily uninterrupted silent reading, recording on a log what was read that day, indicating on the log whether the book was enjoyable, just okay or not enjoyable. One day a week, the students talked about their books and passed them on to another student who wished to read the book. Each group was in the learning support room at different times. They were not aware the experimental group was the only group participating in SSR.

Posttest Phase. The posttest part of the experiment lasted one week. During this time, The Qualitative Reading Inventory was readministered with a different reading selection to avoid

test drift. Readministration took less time because a reading level had been previously established.

After the tests were scored, a mean was computed for each group. The control group's mean scores were: word recognition-101, acceptability level-3.27 and comprehension-3.24. The mean scores for the experimental group were: word recognition-127, acceptability level-4.1 and comprehension-3.90. (See Table 3,4,5).

Data Analysis. After each student had been given the QRI pretest and posttest, a two sample t-test was used to note any significant differences between the means. The two sample t-test determined if the differences in mean scores occurred randomly in the population; or, whether the difference was attributable to the SSR. To determine if there was a significance, a mean difference was computed for each groups' scores. Then, a standard deviation and a t-value was calculated for each set of scores Because the number of subjects in the sample was twelve and the null hypothesis stated $p<=.05$, a df value of 2.28 was obtained from the Critical Values of t-chart. Any t-score below 2.28, the null hypothesis was accepted. Any t-score above 2.28, the null hypothesis was rejected. (See Table 6).

First, the null hypothesis stated there would be no difference between the experimental and the control groups' word recognition scores. The mean difference of the two groups word recogniton scores was computed. A mean difference of zero yielded a t-score of zero. Working with the null hypothesis being accepted with a t-score below 2.28 and comparing the score of 0 to 2.28, no significance was found to exist. The null hypothesis was accepted. There was no significant change between the control group's scores and the experimental group's scores in word recognition. SSR had no effect on the word recognition skills of third and fourth grade learning disabled students.

The second part of the hypothesis regarded reading words in context (shown as the acceptability score). When the two means were compared, a difference of .71 existed. Using the formula for t, a t-value of 4.96 was calculated. Again, the df value of 2.28 was critical. With the t-score exceeding 2.28, the null hypothesis was rejected for reading words in context. There was a significant difference between the scores of the two groups. SSR did positively effect the ability of third and fourth grade learning disabled students to read words in context.

The last part of the hypothesis examined comprehension. After reading a story, the students were asked questions from the implicit and explicit level about the story. When the two means were compared, the difference was .66. The comparison in the scores yielded t= 4.08. Again, comparing 4.08 to 2.28, a

significant level was apparent. The null hypothesis was rejected for comprehension and the hypothesis was accepted. SSR had a positive effect on the comprehension scores of third and fourth grade learning disabled students.

In conclusion, the null hypothesis was accepted for word recognition and rejected for reading words in context and comprehension. A significant level of change was noted in the experimental group for reading words in context and comprehension. SSR had a positive effect on the reading words in context scores and comprehension scores of third and forth grade students after a period of six months.

Table 6

Data Analysis Scores

	Word Recognition	Acceptability Level	Comprehension Level
Mean Difference	0	.71	.66
Standard Deviation Control Group	214	.3290	.4804
Standard Deviation Experimental Group	208	.5129	.5006
T Value	0	4.96	4.08
df	2.28	2.28	2.28

Conclusions

A significant level of change was noted in the experimental group for reading words in context and comprehension of reading material at the implicit and explicit level. No significant change was noted in word recognition. There are ,however, several threats to the validity of the results. First, the study contained a small group of students. Secondly, the students were not randomly assigned. In order to avoid the two groups awareness of the experimental treatment, the assignment to two groups was based on the learning support students' schedules. The deficiency in randomness made the study impossible to generalize. Another threat to the validilty of the results was the makeup of the groups. They were not evenly matched in IQ or reading skills. The control group had the higher mean IQ; but they also had lower mean reading skills. (See Tables 3,4,5). The final threat to the validity of the scores was the individual students within the study. Each individual's reading score matured over time due to the length of the study; however, this should have been overcome by the comparison of the two groups reading achievement scores. Both groups' scores should have matured with time. Within the control group, subject two and subject six had outlying scores as compared to the rest of the group. In the experimental group only subject four had a critical outlying score. Finally, each one of the students could have read on their own. It was noted within the learning support classroom, one student from each

group was an independent reader. In the control group subject four, was an independent reader. In the experimental group, subject six was an independent reader. It was interesting to note, both students achieved the highest differences in scores overall.

Generalizations

The results can not be generalized beyond the classroom because the sample was not randomized.

Implications

Although the results can not be generalized, the statistically significant scores in reading words in context and comprehension indicate SSR is an effective reading tool for learning disabled students.

Suggestions for Future Research

Longer studies of several years involving mildly impaired students would increase the knowledge of SSR and the mildly impaired. If, as suggested in the literature, at least six months are needed to detect an increase in reading achievement for the average student, would longer studies increase the significance in reading achievement in the mildly impaired? Also, studies of younger mildly impaired students are necessary.

According to Wiesendanger (1989), the younger the student the greater the improvement in reading attitude. This may also be true of reading achievement. Another study should match the skill levels of students. The paired comparison between students of equal skill levels would yield needed knowledge concerning SSR. Finally, a study involving large groups of students should be conducted. Groups of twenty or more would yield meaningful results.

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