Helping Students Become Fluent Readers: A Repeated Reading Intervention with a group of children with dyslexia

(Paper published by Ellen Reynor in the Proceedings of the Literacy Association of Ireland (LAI) Conference 2008)

The main aim of this M.Ed research intervention was to investigate the place and relevance of reading fluency in the development of reading ability, and especially in the development and remediation of reading difficulties for children with dyslexia in Irish schools. A more specific objective was to evaluate the effectiveness of the Repeated Reading Technique in improving the oral reading fluency of a group of nine 12 year old children with dyslexia in a reading school.

READING FLUENCY

Reading fluency is a critical factor in general reading development and achievement (Kuhn & Stahl, 2003; Rasinski, Linek, Padek & Sturtevant, 2001, Over the last twenty years the systematic research into the role of phonological processes in reading failure has been highly successful but insufficient in dealing with the complexity of reading breakdown, especially in the area of reading fluency (Meyer & Felton, 1999). The shortcomings of concentrating solely on decoding and word attack skills in the acquisition of reading with children with dyslexia have been recognised in recent intervention research (Foorman et al., 1997; Torgesen, Rashotte, & Wagner 1997). It is argued that direct, intensive instruction in phoneme awareness and phonics improves decoding and word identification in poor readers, but yields only minimal gains in reading fluency.

Kuhn (2004) states that there are several reasons why fluency has failed to receive sufficient attention in terms of reading instruction. These reasons include

- the assumption that increasing amounts of decoding instruction automatically leads to improved fluency (Fleisher, Jenkins & Pany, 1980).
- The reliance on round robin reading as one of the primary approaches to reading instruction.
- Popular reading programmes do not foster reading fluency in any systematic and planned way (Rasinski, Linek & Sturtevant, 2001).

Recently the NRP's report (2000) named reading fluency as one of five critical factors in reading instruction. Although the subject has begun to receive greater amounts of attention, reading fluency has often been overlooked in the literacy curriculum. Indeed Allington (1983) has called fluency "the neglected goal of reading research and instruction" and similarly Anderson (1981) stated that fluency is the "missing ingredient" in reading instruction.

What is Reading Fluency

Meyer & Felton, (1999) state that at the basic level, reading fluency refers to the ability to read text accurately, quickly, and with good expression so that time can be allocated to understanding what has been read. Hudson, Lane & Pullen (2005) define and describe the three key elements of fluency as accurate reading of connected text, at a conversational rate, with appropriate use of prosody or expression. There is general consensus that fluency involves these three components: word accuracy, reading rate, and prosody (Allington, 1983: Rasinski, 1989; Schreiber, 1991).

The Contribution of Prosody

One element of fluent reading is prosody or expressiveness. Dowhower (1991) identified six distinct markers that comprise prosodic reading: *lack of pausal intrusions* (inappropriate pauses within words or within syntactic units), *length of phrases* (organising text into word chunks by increasing the length of phrases), *appropriate phrasing* (a group of words that is syntactically acceptable), *phrase-final lengthening* (the vowel sound in a word which is in a phrase final position is lengthened), *intonation*

contours (the pattern of pitch change which fits a sentence, and finally stress (the intensity with which a syllable or word is uttered).

Various types of multidimensional fluency rating scales have been developed for teachers which measure phrasing, intonation, and stresses in oral reading. For example a 4-point fluency scale was developed by the National Assessment of Educational Progress (2000), Allington, (1983) developed a 6-point scale while Zutell and Rasinski (1991) use a three 4 point rating scale.

Fluency Instruction

A number of researchers believe that the most effective means for assisting learners in the transition to reading fluency is through the provision of practice with connected text (Allington, 1983; Chall, 1996; Chomsky, 1976; Cunningham & Allington, 2003; Rasinski, 2000).

There are several guided oral reading methods. One of the first empirically evaluated strategies to focus on oral reading fluency was *The Neurological Impress Method* (NIM) developed by Heckleman (1966). This has proved to be an effective method in improving reading fluency in a number of studies (Flood et al., 2005; Reitsma, 1988). **Reading** While Listening is another method which has proved successful (Carbo, 1978; Chomsky, 1976) in increasing reading fluency by having the pupil listen to taped stories and follow the words in the book until they can read the text fluently. Fluency Development Lesson (Rasinski, Linek, Sturtevant & Padek, 2001) incorporates several key elements of effective fluency instruction. For example use of a 50-150 word text, a different text is used each day, texts can be recycled so the class develops a corpus of practiced texts. Texts are selected for content and rhythm. Poems and song lyrics are acceptable. The teacher introduces text, and models fluent reading of the text. Several choral readings are practiced. Students pair off. They read 2-3 times to each other. They mark on evaluation chart. They're invited to perform the text for the class. **Readers Theatre** is a repeated reading technique that involves a rehearsed group presentation of a script that is read aloud rather than memorized (Flynn, 2004). Scripts can vary from short plays, stories, adaptations of stories or poetry readings. Readers practice, refine and finally perform the script adding certain elements of theatre including gestures, interaction between readers

and costumes where needed (Wolf, 1993). It has also been acknowledged that Readers Theatre scripts lend themselves to expressive interpretation as they are specifically meant to be "performed". Examples of texts used in RT include poetry, song lyrics, chants, monologues, as well as plays. Some teachers also use Curriculum-Based Readers Theatre in which the script topics come directly from classroom curriculum content (Flynn, 2004). This has proved an effective and motivating method to improve reading fluency (Johnston, 1985; Keehn, 2003; McCormack (1994) Rineheart 1999).

The Repeated Reading Technique

Repeated reading of connected text is the oldest and most cited method for improving reading fluency (Meyer & Felton, 1999). The Repeated Reading (RR) procedure is simply the practicing of a passage of instructional level connected text a number of times until it is read accurately and at a predetermined speed (Moyer, 1982; Samuels, 1979). At each juncture, the reader is given further passages at that level until the optimal rate is achieved (Wolf & Katzir-Cohen, 2001).

Repeated Reading practice can facilitate general oral fluency for unskilled readers, for normal readers using difficult text, and in regular classroom instruction (Dowhower, 1987; Moyer, 1982). Therrien (2004) in a meta-analysis of studies using Repeated Reading concluded that the technique does improve the overall oral reading fluency and comprehension of children with and without learning disabilities.

There is some indication that repeated reading methods help children to read prosodically (Dowhower, 1991; Herman, 1985).

Research-based best practice methods include

• Use of instructional and upper-instructional level passages (as well as frustration level with support) to promote growth in what Vygotsky (1978) refers to as the zone of proximal development, or that range in which learners can achieve with assistance what they are unable to achieve on their own. This approach has been recommended and used in previous studies (Kuhn, 2004; Samuels, Ediger, & Fautsch-Patridge, 2005).

- Modelling by the teacher of the text and discussion, practicing and encouragement of expressive reading (Blevins, 2001; Rasinski, 2003; Schreiber, 1980).
- The passage should be read no more than three to four times (a ceiling is reached after 4 readings).
- Giving corrective feedback on word errors improves word recognition and comprehension of the text being read (NICHD, 2000; Pany & McCoy, 1988; Snow, Burns & Griffin 1998)
- Use of a criterion, such as speed (words per minute), or expression (concentrating on intonation, pauses, stressing of certain words) is seen to be more effective than repetitions of the text alone (Therrien 2004).
- Use of both expository and narrative texts.
- Provision of plenty of practice using Repeated Reading of progressively more difficult texts (Chard et al., 2002; Meyer & Felton, 1999).

THE INTERVENTION

(A) Teacher Survey

A teacher's survey was conducted using questionnaires. Approximately fifty learning support teachers as well as teachers in reading units and reading schools in Ireland were targeted. It was hoped to collect information on the types of reading programmes being used with dyslexic pupils, if they involve a fluency development component, and the methods teachers are using to develop reading fluency.

(B) Student Intervention

The intervention involved the implementation of a six-week intervention to develop oral reading fluency. It consisted of a series of oral reading fluency lessons of approximately 20 minutes using the Repeated Reading technique, three times a week. Readers Theatre was also incorporated into the intervention 1-2 afternoons a week but only one RT piece was measured and assessed (4th passage).

MEASUREMENTS

1. The children were pre and posttested using the <u>Gray's Oral Reading Test</u> (GORT-4) (Weiderholt & Bryant, 2001) This is a norm-referenced measure of oral reading performance. It was used to evaluate oral reading rate, accuracy, fluency, and comprehension.

It is often used to measure the effects of instruction over time (e.g., an individual is tested on form A, instruction takes place over a period of time and then the individual is retested on Form B). In this case the Oral Reading Quotient is calculated on the pre-and posttest and the lower quotient is subtracted from the bigger quotient. The minimal difference score required for significance must be 9 points Therefore their must be a 9 point or more difference in the posttest for the intervention to have been successful.

- 2. A Prosody Chart was developed by the teacher. This chart was constructed to document the main features in the expression and prosody of the pupil's reading during the Repeated Reading lessons and to keep track of their development and improvement throughout the intervention. It was marked on the first reading of every passage. All of the markers mentioned below were discussed and practiced during the intervention as part of the mornings literacy work. It contained four of the six distinct markers that identify prosodic reading as outlined by Dowhower (1991). These prosodic features were commented on and marked appropriately on the Prosody Chart
 - Pausal Intrusions.
 - Length of Phrases,
 - Intonation (rise of voice, drop of voice at the full stop, expression),
 - Use of punctuation to pause appropriately.
- 3. <u>A Multidimensional Fluency Scale</u> was used to record the students overall fluency scores for each passage read during the intervention on a scale of 4 to 16. This type of scale is widely used in the U.S.A. to rate reader fluency.

4. A <u>Words Per Minute chart</u> and a <u>Word Accuracy chart</u> were also used to record the child's 1st and 3rd reading of each passage. The children also had a WPM record sheet to mark in their scores on the 1st and 3rd reading of each passage.

INSTRUCTIONAL MATERIALS

A range of both expository and narrative texts were used for Repeated Reading passages. Good, Simmons & Kame'enui (2001) provide guidelines for teachers on the readability levels that constitute independent, instructional, and frustration level texts.

Readability Level	Words Read Correctly
Independent	96-100%
Instructional	90-95%
Frustration	Less than 90%

The Fry's readability Graph (Fry, 1977) was also used to help determine the grade/age level and difficulty of the texts that were to be used in the intervention.

Readability of Passages used

Passage 1 9 yr. old
Passage 2 and 3 10 yr. old
Passage 4 and 5 10-11 yr. old
Passage 6 11 yr. old
Passage 7 11-12 yr. old
Passage 8-10 12 yr. old

PROCEDURE

1. A passage of 200-250 words was selected. Each passage was read 3 to 4 times only. Each child was taken by the teacher individually to read the passage (cold reading). Feedback was provided on word errors. Reading rate, the amount of inaccurate words read, prosody and fluency were measured and recorded for each pupil on the 1st and last reading of each passage. Prosodic elements were measured and rated on the Teachers Prosody Chart and the Multidimensional Fluency Scale for the 1st readings.

- 2. The teacher modeled a fluent oral reading of the passage for the class. Prosodic features of the passage were discussed such as pauses, stressing and sometimes phrases were chunked using slashes (Hudson, Lane & Pullen, 2005). Attention was drawn to difficult words encountered by all pupils.
- 3. The second reading was read with an SNA, the teacher or sometimes by the children in pairs, where one child read first and then the other child, and both children commented on each others reading.
- 4. The last reading was done with the teacher (hot reading). Reading rate accuracy and prosodic elements were timed and charted.

SUMMARY OF TEACHER SURVEY

Thirty out of the thirty one teachers who replied used one or more Phonological Awareness Programmes with children with dyslexia and instructed the pupils regularly in Phonemic Awareness. Teachers were familiar with a variety of such programmes. Figure 1 shows the range of programmes being used by the teachers. Two teachers mentioned that they had six phonological programmes available in their school.

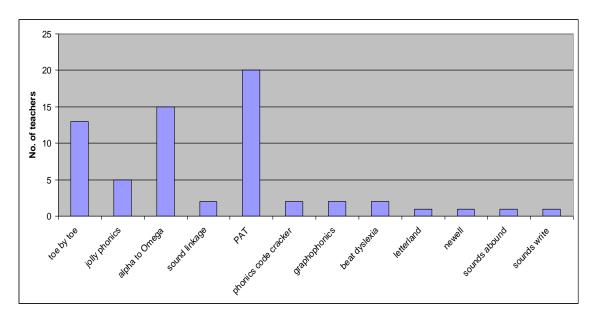


Figure 1 Range of Phonological Programmes Used

Fluency Instruction

The majority of teachers (n=9) listened to the pupils reading graded texts to promote reading fluency. The next most popular methods were the rereading of text, the teacher modeling the text, and paired reading, each used by four teachers. None of the teachers were measuring or assessing the reading fluency development of their pupils.

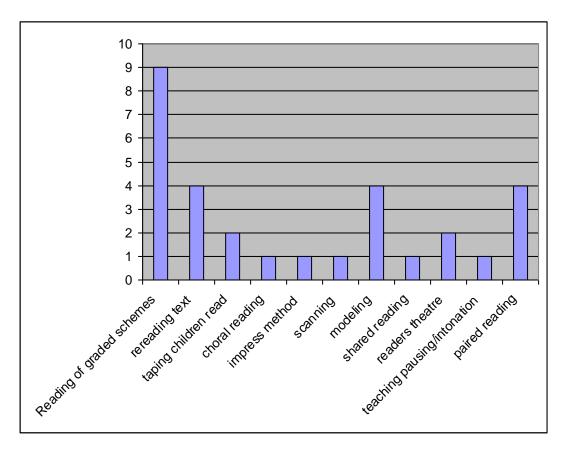


Figure 2 Teacher Methods of Improving Reading Fluency

Repeated Reading

The majority (62%) of the teachers surveyed had never used the RR Technique. Teachers understanding and use of the Repeated Reading varied (see fig. 3)

Some teachers were critical of the technique. Criticisms included the view that gains made in fluency by rereading the text didn't transfer to new texts. Five teachers thought it was not a good method because it meant children were memorising or learning off text. One teacher commented that RR was not indicated as a method in her resource materials while another said that the method had never been recommended in the pupils' psychological reports and that this information makes up the child's IEP.

Among the positive views expressed about the method were those teachers (n=9) who commented on the importance of rereading and repetition of text in improving the child's confidence and self-esteem.

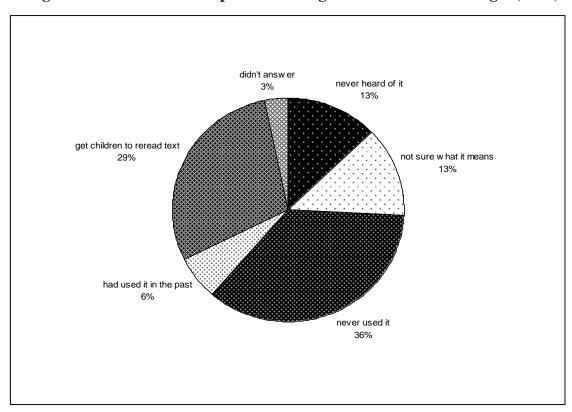


Figure 3 Teachers Use of Repeated Reading Procedures in Percentages (n=31)

In summary, teachers expressed both positive and negative views on Repeated Reading. Most teachers were not giving explicit instruction or focused practice in oral reading fluency. No formal measuring or assessment of reading fluency was taking place. There seemed to be a dearth of appropriate information available about the method generally.

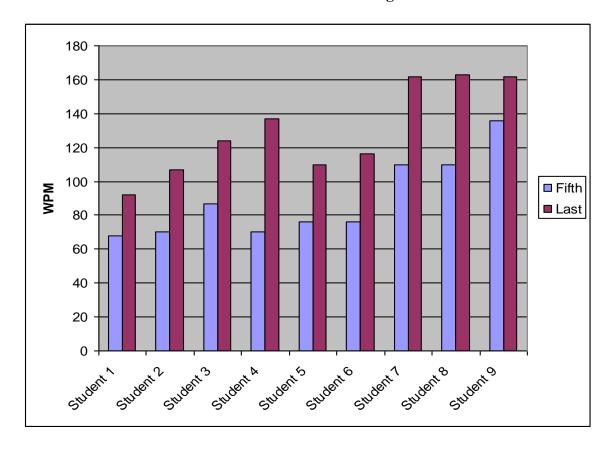
SUMMARY OF INTERVENTION RESULTS

Reading Rate

All pupils word rates improved significantly within passages (from the 1st to the 3rd reading of each passage). Transfer effects to unread passages also occurred for all students not only on the first few passages which were at an easier level (9-10 yr. old on the Fry's Readability Graph) but they were also evident from the 5th to the 10th passage

where passage difficulty had increased to 11-12 year old levels. This would indicate that the RR method improved the reading rate for all students even when passages were difficult. Individual differences in progress in reading rate from passage 5 to passage 10 can be seen in Figure 4.

Figure 4 Comparing Reading Rates of Fifth and Tenth (last) Passages for Individual Students on First Readings



Word Accuracy

The number of incorrect words per minute read decreased significantly between the first and the third reading of each passage. There was also a significant increase (p<.01) in scores in word accuracy across first readings of all passages for students. These increases show that over time, repeated reading positively affected the student's word accuracy despite the increasing difficulty of the passages and the lack of shared words in each passage (the passages were taken from different sources and used different subject matter). This evidence also offers some support for the use of instructional and frustration

level texts with RR methods as long as some scaffolding and support is present for the pupils on initial readings of these passages.

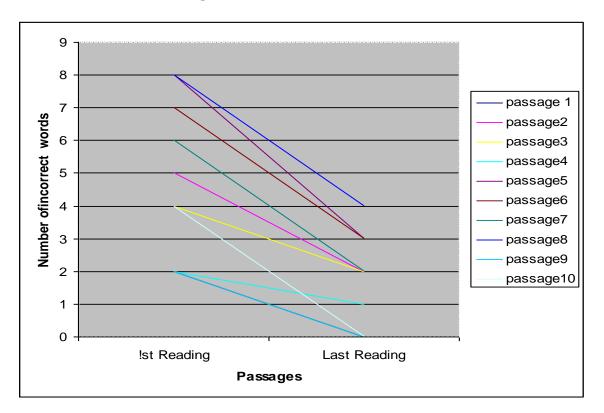


Figure 5 Decrease in Word Errors

Prosody

The mean number of **Pausal Intrusions** decreased for the group on the first readings of passage 1 to the first reading of passage 10. This decrease was significant (p<.01). **Length of Phrases** increased for the majority of pupils from the first passage to the last passage. The increase in phrase length was particularly noticeable in passage 4 which was also performed as a Readers Theatre piece. The **intonation** and **punctuation** of the pupils was measured on all passage 1st readings. The results showed an increase in both of these prosodic elements for the group from the beginning to the end of the Intervention. These increases were also statistically significant (p<.01). Overall there was a marked improvement in the pupil's prosodic reading by the end of the intervention due to modeling and plenty of practice in this area.

Multidimensional Fluency Scale

On the Multidimensional Fluency Scale the pupils overall fluency was measured by their Accuracy, Phrasing, Smoothness and Pace (see Appendix). A Freidman test was run to measure the increase in fluency for the students across all passage read. There was a significant increase in fluency from the first passage to the last passage according to this fluency scale at the .01 level. There was an increase in fluency for all the students except student 1 (fig.5), but in general the students who made the most progress were those students who started out the least fluent readers.

Multidimensional Fluency Scale 16 14 Student 1 Student 2 12 Student 3 Scale Score 10 Student 4 8 Student 5 Student 6 6 Student 7 4 Student 8 2 Student 9 0 1 2 3 4 5 6 7 8 9 10 **Passage**

Figure 5 Student's Scores on the Multidimensional Fluency Scale for All Passages

The GORT-4 Pre and Posttest Results

The results of the GORT-4 also showed significant increase in reading rate, word accuracy, and reading fluency for the group.

The Accuracy scores (see Table 1) increased substantially from 14.89 to 25.22. Due to the small sample (n=9), a non-parametric Wilcoxon Test was used to test for significance.

The Z value -2.524 indicates a statistically significant (p<.01) increase in scores on accuracy.

Reading Rate scores also increased from 8.89 to 16.11. The Z value -2.207 indicates a statistically significant (p<.01) increase in scores on the rate of reading.

Similarly, Fluency scores increased significantly from 6.56 to 17.00. The increase was statistically significant at the .01 level.

Table 1 Performance on GORT-4– Pre and Posttest: Means and SDs for Accuracy, Reading Rate, Fluency and Comprehension

Descriptive Statistics

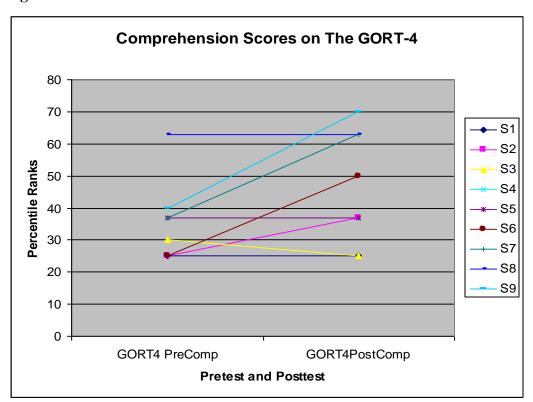
	N	Minimum	Maximum	Mean	Std. Deviation
GORT4Pretest	9	2	37	14.89	14.181
Accuracy Score	9	۷	31	14.09	14.101
GORT4Pretest	9	1	25	8.89	9.610
Reading Rate	9	'	23	0.03	9.010
GORT4 Pretest	9	-1	25	6.56	9.723
Fluency Score	9	-1	23	0.50	9.723
GORT4 Pretest					
Comprehension	9	25	63	35.89	11.709
Score					
GORT4Posttest	9	5	50	25.22	13.944
Accuracy Score	9	3	30	25.22	13.944
GORT4Posttest	9	1	50	16.22	17.188
Reading Rate	9	'	30	10.22	17.100
GORT4 Posttest	9	-1	50	17.00	18.888
Fluency Score	9	-1	30	17.00	10.000
GORT4 Posttest					
Comprehension	9	25	75	45.78	17.887
Score					
Valid N (list wise)	9				

Despite the overall increase in Comprehension scores for the group as a whole from pretest to posttest, a Wilcoxon (non-parametric) Test showed that the result was not statistically significant. This, however, is not a surprising result. The focus of the lessons was not on the development of comprehension and there was no instruction in comprehension-oriented skills during the study. Comprehension had not been monitored, or measured during the study. Furthermore, there is some debate among scholars as to the relationship between fluency and comprehension (Vaughn, Chard, Tyler, Linan-Thompson, & Kouzekanani, 2000). The issue of whether fluency is an outcome of or a

contributor to comprehension is not clear, although it is generally agreed that an increase in one leads to an increase in the other (Pikulski & Chard, 2005). The latter seems to have been the case in this study. I

The large standard deviation in Posttest Comprehension scores may be accounted for by the fact that there was a bigger spread of scores on the posttest. Inspecting individual scores (Figure 6) it can be seen that four students' comprehension scores increased from pretest to posttest. Some of these students scored very high in the posttest results. Three student's pretest and posttest scores stayed the same, while one student's score disimproved on the posttest (S3).

Figure 6



The GORT-4 Test gives an Oral Reading Quotient score (ORQ) for the overall reading ability of each student. It is calculated by adding the standard scores for fluency and comprehension together and converting the score using the table provided. This Oral Reading Quotient can be used in a test-teach-test situation. In order for a reading intervention to have been successful for the student, it is necessary for the difference between pretest (form A) and Posttest (form B) ORQ scores to be 9 points. The ORQ scores for the students are presented in Table 2. The data shows that the intervention was

successful in improving the Oral Reading Ability of six of the nine pupils who participated in the study.

Table 2 Comparing GORT-4 Oral Reading Quotient from Pre to Posttest

	GORT-4 ORQ Scores								
	ORQ Pretest	ORQ Posttest							
S1	70	76							
S2	67	70							
S3*	76	85							
S4	76	82							
S5*	76	85							
S6*	73	85							
S7*	88	100							
S8*	94	100							
S9*	91	106							

There are a number of reasons why these three pupils did not make significant progress by the en of the intervention. One reason may be that the intervention was not sufficiently long for these three pupils to develop automaticity in reading fluency. These pupils were word-by-word readers when the intervention started and they may also have needed more intensive, one-to-one instruction when this reading behaviour is so ingrained over many years. Torgesen (2000) in an analysis of children who did not respond to reading intervention treatments, has also drawn attention to the fact that factors such as the pupil's socio-economic background and their behaviour and attention in the classroom were important factors in deciding whether these children made progress in reading or not.

However, it can be seen (Table 3) that these three students who did make some progress in reading fluency and in other areas by the end of the 6 weeks. The increases made, although not significant, are nevertheless welcome improvements in reading ability for these low achieving students especially since they occurred in such a short time period.

Table 3 Lowest Scoring Student's GORT-4 Pretest and Posttest Percentile Rank Scores for Reading Rate, Word Accuracy and Comprehension

GORT-4	S 1	S 2	S 4
Pretest Reading Rate	2	1	2
Posttest Reading Rate	5	1	5
Pretest Reading Accuracy	5	2	9
Posttest Reading Accuracy	16	5	16
Pretest Fluency	<1	<1	1
Posttest Fluency	2	3	5
Pretest Comprehension	25	25	37
Posttest Comprehension	25	37	37

DISCUSSION

The major conclusion of this study was that students learned to read faster, more accurately, and more fluently through the use of Repeated Reading. The Repeated Reading Technique has proved to be an effective strategy for enhancing the reading fluency of a group of 12 yr. old children with dyslexia. During the intervention the students had to focus regularly on such factors as the speed they were reading at, attention to different types of punctuation, the length of their phrasing, and their intonation. Word accuracy was not given an emphasis. The better readers began to read faster early on in the intervention, but for most students it took quite an adjustment. Significant growth was seen in all the components measured such as Reading Rate, Word Accuracy, Fluency and Prosody between readings and from the first to the last passage read for all students. This intervention has proved that RR methods can be an effective way of improving fluency for older children with dyslexia.

It has also been shown in this study that for the teachers surveyed, systematic reading fluency development does not play a major role in the remediation of children with dyslexia. Reading fluency was generally seen as an outcome of skilful decoding and accurate word recognition and not as a contributing factor so that many activities used with children with dyslexia involve instruction on words in isolation. There does not seem to be enough information available on the methods of improving fluency including Repeated Reading nor is there adequate knowledge of the components that make up fluent reading and ways of assessing it for the teacher. Neither is there an emphasis on the development of reading fluency in the English curriculum.

The type of reading practice needed to improve reading fluency has been investigated by the NRP (2000). Perhaps formal guidelines need to be developed for teachers as to best practice in the area of reading fluency development and instruction and assessment for children, especially those with reading difficulties.

It is also stated by the NRP (2000) that there is a need for explicit instruction and focused practice for pupils experiencing fluency problems. The following suggestions for teachers (Zutell & Rasinski, 1991) may help in marking, assessing and attending to pupil's reading fluency:

- Teachers should listen to the pupil read without copies of the text at first, so that they focus on the holistic quality of the reading and not on word accuracy.
- Mark specific dysfluent behaviours on a copy of the text. These include noting of pausal intrusions, multiple attempts, word by word reading and patterns of stress and intonation.
- Note the pupil's attention to punctuation.
- Mark phrase boundaries on texts for the pupils (use slashes).
- Use a fluency rating scale to assess fluency at the beginning, middle and end of the year (see Appendix).
- Compare the pupils reading rate against targeted norms. (see Appendix)

The importance of the development of reading fluency and the method of Repeated Reading in particular has been highlighted by a substantial body of reading specialists (Allington, 1983; Chomsky, 1976; Dowhower, 1989; Samuels, 1979. Many struggling readers do not gain reading fluency incidentally or automatically. They need explicit

direct instruction in how to read fluently and sufficient opportunities for intense fluency focused practice incorporated into their reading programmes. There needs to be a balance achieved in instruction methods for children with dyslexia between the development of phonological awareness and decoding skills on one hand and the development of reading fluency with connected text on the other. The use of RR is an easy and effective way to achieve this balance. It can be done in a classroom setting, with a small group, or on a one to one basis. Because both classroom and learning support teachers have a limited amount of time to teach reading to pupils, it is critical that they use the time available as efficiently as possible. The evidence from this research study concerning the type of reading practice suitable for children with dyslexia suggests that Repeated Reading is a valuable method in enhancing reading fluency.

References:

Allington, R. L.(1983). Fluency: The neglected goal. *The Reading Teacher*, 36, 556-561.

Anderson, B. (1981). The missing ingredient: fluent oral reading. *The Elementary School Journal*, 81, 173-177.

Bowers, P., & Wolf, M. (1993). Theoretical links among naming-speed, precise timing mechanisms, and orthographic skill in dyslexia. *Reading and Writing: An Interdisciplinary Journal*, 5 (1), 69-85.

Chall, J. (1996). Learning to read: The great debate (1967). New. York: McGraw Hill.

Chard, D.J., Vaughn, S., & Tyler, B. (2002). A Synthesis of Research on Effective Intervention for Building Reading Fluency with Elementary Students with Learning Disabilities. Journal of Learning Disabilities, Vol. 35, September, 386-406.

Chomsky, C. (1976). After Decoding: What? Language Arts, Vol. 53, March, 288-296.

Department of Education and Science (1999). *English Language Teacher Guidelines, Primary School Curriculum*. Dublin: Stationary Office.

Dowhower, S.L. (1987) Effects of repeated reading on second grade transitional reader's fluency and comprehension. *Reading Research Quarterly*, Fall, 390-406.

Dowhower, S. L. (1991). Speaking of Prosody: Fluency's Unattended Bedfellow. *Theory Into Practice*, Vol. XXX, (3), Summer, 165-175.

Fleisher, L.S., Jenkins, J.R., & Pany, D. (1980). Effects on poor reader's comprehension of training in rapid decoding. *Reading Research Quarterly*, 15, 30-48.

Flood, J., Lapp, D., & Fisher, D. (2005). Neurological Impress Method Plus. *Reading Psychology*, 26, 147-160.

Foorman, B., Francis, D., Beeler, D., Winikates, D., & Fletcher, J. (1997). Early interventions for children with reading problems: Study designs and preliminary problems. *Learning Disabilities: A Disabilities Journal*, 8, 63-71.

Flynn, R. (2004). Curriculum-Based Readers Theatre: Setting the stage for reading and retention. *The Reading Teacher*, Vol. 58 (4), December, 360-365.

Fry, E.B. (1967). A readability formula that saves time. *Journal of Reading*, 7, 513-516.

Good, R. H., Simmons, D.C., & Kame'enui, E.J. (2001). The importance and decision-making utility of a continuum of fluency-based indicators of foundational reading skills for third grade high-stakes outcomes. *Scientific Studies of Reading*, 5, 257-288.

Heckleman, R. (1966). Using the neurological impress remedial reading method. *Academic Therapy*, 1, 235-239.

Herman, P. (1985). The effect of repeated readings on reading rate, speech pauses, and word recognition accuracy. *Reading Research Quarterly*, Fall, 553-565.

Hudson, R., Lane, H., & Pullen, P. (2005). Reading fluency assessment and instruction: What, why, and how? The Reading Teacher, Vol. 58, (8), 702-714.

Keehn, S. (2003). The Effect of Instruction and Practice Through Readers Theatre on Young Readers' Oral Reading Fluency. *Reading Research and Instruction*, 42, (4), Summer, 40-61.

Kuhn, M. (2004). Helping students become accurate, expressive, readers: Fluency instruction for small groups. *The Reading Teacher*, Vol. 58, (4), December, 338-344.

Kuhn, M., & Stahl, S. (2003). Fluency: A Review of Developmental and Remedial Practices. *Journal of Educational Psychology*, Vol. 95, (1), 3-21.

McCormack, S. (1994). A non-reader becomes a reader: a case study of literacy acquisition by a severely disabled reader. *Reading Research Quarterly*, 29, 157-176.

Meyer, M. & Felton, R. (1999). Repeated Reading to Enhance Fluency: Old Approaches and New Directions. *Annals of Dyslexia*, 49, 283-306.

Moyer, S. (1982). Repeated Reading. Journal of Learning Disabilities, Vol. 15, 619-623.

National Assessment of Educational Progress. (2000). Washington, DC: Centre for Educational Statistics. *Eric*, ED 441875.

National Reading Panel (2000). Teaching Children to Read: An evidence-based assessment of the scientific literature on reading and its implications for reading instruction. Washington, DC: National Institute of Child Health and Human Development.

Pany, D., McCoy, K. (1988). "Effects of corrective feedback on word accuracy and reading comprehension of readers with learning disabilities". *Journal of Learning Disabilities*, 21 (9), 546-550.

Rasinski, T. (2000). Speed does matter in reading. *The Reading Teacher*, Vol. 54, (2), 146-151.

Rasinski, T., Padak, N., Linek, W., & Sturtevant, E. (1994). Effects of Fluency Development on Urban Second-Grade Readers. *Journal of Educational Research*, Vol.87 (3), 158-165.

Reitsma, P. (1988). Reading practice for beginnings: Effects of guided reading, reading-while-listening, and independent reading with computer-based speech feedback. *Reading Research Quarterly*, 23, 219-235.

Rineheart, S. (1999). "Don't think for a minute I'm getting up there": Opportunities for Readers Theatre in a Tutorial for Children with Reading Problems. Journal of Reading Psychology, 20, 71-89.

Samuels, S. J. (1979). The method of repeated readings. *The Reading Teacher*, (32), January, 403-408.

Samuels, S.J., Ediger, K, & Fautsch-Patridge, T. (2005). The Importance of Fluent Reading. *The NERA Journal*, Vol. 41, (1), 1-8.

Schreiber, P. (1991). Understanding Prosody's Role in Reading Acquisition. *Theory Into Practice* Vol. XXX (3), 158-164.

Thierrien, W. (2004). Fluency and Comprehension Gains as a Result of Repeated Reading. A Meta-Analysis. Remendial and Special Education, Vol.25, (4), 252-261.

Torgesen, J., Rashotte, C., & Wagner, R. (1997). The prevention and remediation of severe reading disabilities: keeping the end in mind. *Scientific Studies of Reading*, 1, 217-234.

Wolf, M. & Katzir-Cohen, T. (2001). Reading Fluency and Its Intervention. *Scientific Studies of Reading* 5(3), 211-239.

Wolf, S. A. (1993). What's in Name? Labels and literacy in Readers Theatre. *The Reading Teacher*, Vol. 46, (7), 540-545.

Zutell, J. & Rasinski, T. (1991). Training Teachers to Attend to Their Student's Oral Reading Fluency. Theory Into Practice, Vol. XXX, (3), Summer, 211-217.

TABLE 1 Oral reading fluency norms, grades 1-8									
Grade	Percentile	Fall WCPM	Winter WCPM	Spring WCPM					
, ruuc	90	1701 111	81	111					
	75		47	82					
	50		23	53					
	25		12	28					
	10		6	15					
	SD		32	39					
	Count		16,950	19,434					
	90	106	125	142					
	75	79	100	117					
	50	51	72	89					
	25	25	42	61					
	10	11	18	31					
	SD	37	41	42					
	Count	15,896	18,229	20,128					
	90	128	146	162					
	75	99	120	137					
	50	71	92	107					
	25	44	62	78					
	10	21	36	48					
	<i>SD</i> Count	40 16,988	43 17,383	44 18,372					
1									
ŀ	90 75	145 119	166 139	180 152					
	50	94	112	123					
	25	68	87	98					
	10	45	61	72					
	SD	40	41	43					
	Count	16,523	14,572	16,269					
<u> </u>	90	166	182	194					
	75	139	156	168					
	50	110	127	139					
	25	85	99	109					
	10	61	74	83					
	SD	45	44	45					
	Count	16,212	13,331	15,292					
5	90	177	195	204					
	75	153	167	177					
	50	127	140	150					
	25	98	111	122					
	10	68	82	93					
	SD	42	45	44					
	Count	10,520	9,218	11,290					
	90	180	192	202					
	75	156	165	177					
	50	128	136	150					
	25	102	109	123					
	10	79	88	98					
	<i>SD</i> Count	40 6,482	43 4,058	41 5,998					
	90 75	185 161	199	199 177					
	75 50	161 122	173	177					
	50 35	133 106	146	151 124					
	25 10	106 77	115	124					
	10 S <i>D</i>	77 43	84 45	97 41					
	Count	5,546	3,496	5,335					
	Count	5,546	3,496	5,335					

SD: Standard deviation Count: Number of student scores

Repeated Reading WPM Record Sheet

Passage Name		Date			
Names	Words per minute	baseline reading	2nd	3rd	4th
	Words per minute	baseline reading	2nd	3rd	4th
	Words per minute	baseline reading	2nd	3rd	4th
	Words per minute	baseline reading	2nd	3rd	4th
	Words per minute	baseline reading	2nd	3rd	4th
	Words per minute	baseline reading	2nd	3rd	4th
	Words per minute	baseline reading	2nd	3rd	4th
	Words per minute	baseline reading	2nd	3rd	4th
	Words per minute	baseline reading	2nd	3rd	4th
	Words per minute	baseline reading	2nd	3rd	4th
	Words per minute	baseline reading	2nd	3rd	4th
	Words per minute	baseline reading	2nd	3rd	4th

Name	My WPM Record Chart																		
		Passag	ge 1			Passa	je 2			Passa	ge 3			Passa	ge 4		Passa	ge 5	
160 WPM																			
155 WPM																			
150 WPM																			
145 WPM																			
140 WPM																			
135 WPM																			
130 WPM																			
125 WPM																			
120 WPM																			
115 WPM																			
110 WPM																			
100 WPM																			
95 WPM																			
90 WPM																			
85 WPM																			
80 WPM																			
75 WPM																			
70 WPM																			
65 WPM																			
60 WPM																			
55 WPM																			
50 WPM																			
45 WPM																			
40 WPM																			
35 WPM																			
30 WPM																			
25 WPM																			
20 WPM																			
15 WPM																			
10 WPM																			
5 WPM																			
	1st	2nd	3rd		1st	2nd	3rd		1st	2nd	3rd		1st	2nd	3rd	1st	2nd	3rd	

Multidimensional Fluency Scale

Use the following rubric (1-4) to rate reader fluency in the areas of expression and volume, phrasing, smoothness, and pace.

EXPRESSION AND VOLUME

- 1. *Reads words as if simply to get them out*. Little sense of trying to make text sound like natural language. Tends to read in a quiet voice.
- 2. Begins to use voice to make text sound like natural language in some areas of the text but not in others. Focus remains largely on pronouncing the word. Still reads in a quiet voice.
- 3. Make text sound like *natural language* throughout the better part of the passage. Occasionally slips into expressionless reading. Voice volume is generally appropriate throughout the text.
- 4. Reads with *good expression and enthusiasm throughout the text*. Varies expression and volume to match his or her interpretation of the passage.

PHRASING

- 1. Reads in a *monotone* with little sense of boundaries; frequently reads *word-by-word*.
- 2. Frequently reads in two- and three-word phrases, giving the impression of *choppy reading*; improper stress and intonation fail to mark ends of sentences and clauses.
- 3. Reads with a *mixture of run-ons*, mid-sentence pauses for breath, and some choppiness, reasonable stress and intonation.
- 4. Generally reads with *good phrasing*, mostly in clause and sentence units, with adequate attention to expression.

SMOOTHNESS

- 1. Makes frequent *extended pauses, hesitations, false starts, sound-outs*, repetitions, and/or multiple attempts.
- 2. Experiences *several "rough spots"* in text where extended pauses or hesitations are more frequent and disruptive.
- 3. *Occasionally breaks smooth rhythm* because of difficulties with specific words and/or structures.
- 4. *Generally reads smoothly* with some breaks, but resolves word and structure difficulties quickly, usually through self-correction.

PACE

- 1. Reads *slowly* and *laboriously*.
- 2. Reads moderately slowly.
- 3. Reads with an uneven mixture of fast and slow pace.
- 4. Consistently reads at *conversational pace*; appropriate rate throughout reading.

Scores range from 4-16. Generally, scores below 8 indicate that fluency may be a concern. Scores of 8 or above indicate that the student is making good progress in fluency. (Zutell & Rasinski, 1991)

