USING AUDIO-TAPED READALONG STORIES WITH LOW-PROGRESS READERS.

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SUMMARY

Research has shown that audio-taped stories can be effectively used to help struggling readers improve their reading fluency and accuracy, but the evidence on other benefits is meagre. In this study, 30 students in eight New Zealand elementary schools, who were two years behind in reading, were tutored with the Rainbow Reading tape-assisted program for 18 weeks. Results showed significant gains in reading age levels, in word recognition, reading accuracy, comprehension, writing fluency, spelling and oral language. L2 students showed strong gains. Teachers and students spoke positively of the program, and further analysis showed that students who read the most books during the intervention, improved the most. We conclude that there is a definite place for a tape-assisted reading program in helping low-progress students to improve their reading and language abilities.

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Kelly is just over 9 years old, but he reads at the level of a 6 year old. While he speaks English as his first language, his mother does not. She speaks it haltingly, with many aberrations, so Kelly has been exposed to non-standard English at home. From his first year at school, Kelly struggled with his reading, and after four years of failing, he lacks confidence and is quite negative about school learning in general.

Now we see Kelly using a walkman as he listens to an audio-tape of his current Rainbow Reading book "Sean's Go-Kart". As he listens, he follows the text of the book with his eyes. For once, he looks interested.

Before he started, his teacher spent a few minutes talking with him about the book. She told him the title, they discussed go-karts, and what the story might be about. Together, they looked at the pictures throughout the book, and she introduced him to some unfamiliar words. First time through, Kelly listens and follows the text with his eyes. Next time, he tries to read it aloud, in step with the tape. He does this as often as he likes, until he thinks that he knows it. Then he reads it through without the tape. Kelly goes back to his teacher, and selects a page to read aloud to her. She listens, and then asks him to read another section, and checks his comprehension with some specific questions. As Kelly has been successful with several books at this level, the teacher suggests a harder Rainbow Book, at the next level, and Kelly is delighted. Now he is experiencing real success.

In 18 weeks, Kelly moved up from easy books at the 6 year level to the harder books that his 9 year old friends were reading. His reading skills showed clear gains, and he was able to write a coherent story, on his own. After four years of failure, Kelly is forging ahead at last.

The potential of audio-taped stories, or “talking books”, for helping young readers has been recognized for several decades. Children typically read a high-interest story at their current level, while listening to a recorded version of the same story through a set of earphones. This way, they hear a good quality reader, who can read with fluency and expression, and who can fill in the gaps in the text, gaps that would normally cause them to stumble or stop.

The benefits of audio-taped read-alongs have been documented by anecdotal and research studies (Carbo, 1978, Chomsky, 1976, Dowhower, 1987, Gamby, 1983, Medcalf, 1989, Rasinski, 1990), and many teachers have adopted them, either as a component in their normal reading programs or as the core component of a remedial program. (Pluck, 1995b). However, there are a number of unanswered questions about when these programs are effective, to what extent they help children for whom English is a second language, and how much the benefits spread to other language skills.

Research on Taped Read-Alongs

In a comprehensive review of research on programs designed to improve reading fluency, Kuhn & Stahl (2002) identified Carol Chomsky’s (1976) as the first to demonstrate measurable gains with the audio-tape strategy. She worked with a sample of five 8-year-olds who were reading below their grade level. The children chose a book of suitable difficulty, and after listening to a book or chapter, they chose a passage to practise on. They listened and read along repeatedly on these passages, under supervision, and engaged in language games related to the text. After 10 months, Chomsky found that the children had improved their fluency on the selected

passages, and post-tests showed gains of 6 months in fluency and 7.5 months in comprehension. This level of growth was reportedly more than usual for these children.

In a similar study, Carbo (1981) worked with eight learning disabled children, over a period of three months. The tapes in this study were tailor-made for each individual child. At the end of the intervention, Carbo found average gains of 8 months in word recognition ability. In both these projects, the researchers reported that the children enjoyed the experience, which is not a regular feature of remedial programs.

Dowhower (1987) extended the research base with a seven-week experimental study of 18 Grade 2 children, who were reading at normal levels, but with slow word recognition. Half the children worked with audio-tapes, while the other half were unassisted, but able to request help. The taped read-along group showed impressive gains in reading rate, accuracy and fluency, but the comprehension gains for both groups were relatively slight.

On the other hand, Shany & Biemiller (1995) did find significant gains in reading comprehension, relative to control groups, for nine Grade 3 and 4 children on the Canadian Test of Basic Skills, after tape-assisted practice of 16 weeks. Listening comprehension and reading speed also improved, but decoding and word recognition skills showed only negligible gains. The contrasting findings of the latter two studies leave questions unanswered about the impact on comprehension and accuracy of decoding. But all of these studies had fewer than 10 students in the taped intervention.

In a larger study of the impact of re-reading on second language learners, at school and home, with and without taped readalongs, Koskinen et al (Reported in Koskinen et al, 1999) showed enhanced reading achievement and motivation of students for whom English was a second language. The researchers studied 162 beginning readers in 16 classrooms, and compared the impact of four methods – shared reading, shared reading with re-reading at home, shared reading with taped readalongs at home, and a control group. Data from reading tests and teacher and parent questionnaires showed benefits for all three intervention groups. The parents particularly enjoyed the audio-tape intervention as they were able to profit from the re-readings also. Further details and implications for teachers are spelled out in their RT article (Koskinen et al, 1999). This study was reassuring as previous reports were based on very small samples, but it was confined to beginning readers, and the benefits for the tape-assisted group were similar to the other treatments.

New Zealand Studies

The studies reported above took place in North America. In New Zealand, Medcalf (1989) exposed low-progress children to a story-tape program for varying lengths of time. The students selected a suitable book from the program, discussed it with the teacher, followed along while listening to the tape, read the story individually to the teacher, to see how well they were doing, and then had a final conference with the teacher. In Medcalf's first evaluation, 10 students (aged 7.8 years to 10.3 years) who worked on this program for a mean of 18 weeks, showed mean reading gains of 1.3 years on a New Zealand standardised informal prose inventory.

Medcalf repeated the study with 11 low-progress students (aged 9.0 to 10.4 years), and found that they made an average gain of 1.4 years on the reading inventory, after only 10 weeks on the program. These findings were promising enough to encourage others to pursue the strategy as a way of boosting the progress of slow readers.

Meryl-Lynn Pluck (1995a) has taken a leading role in this research in New Zealand. She developed an audio-taped package called the Rainbow Reading Program, primarily to assist struggling readers. The program includes 100 short, high-interest books, graded for reading difficulty level (Elley & Croft, 1989) into six levels. These texts were read aloud by competent readers, and recorded for children to listen to. In preparing the program, Pluck (1995b) trialled the procedures using taped stories with 43 slow-progress students in 15 schools. Although their mean age was 10.1 years, their mean reading level was estimated at only 8 years. However, after 27.5 weeks on the taped reading program, they made substantial gains, averaging 2.23 years. Several informal studies have been conducted on this program, with promising results. What was needed was an independent evaluation, with pupils from a variety of schools, ages and backgrounds.

In the current climate of calls for strong evidence of the effectiveness of interventions, there is a continuing need to demonstrate how beneficial taped reading programs can be, with various audiences, and what impact it has on different language skills. All but two of the evaluations cited above have been conducted on samples of 5-12 students, and the other two left key questions unanswered. While benefits have consistently been shown in reading accuracy and fluency, we have little data on the impact of tape-assisted programs on the comprehension of low-progress students, nor on their

writing, spelling and oral language skills. Most research to date, has included only short interventions, and most has been conducted with native English speakers. We know little of the effect of taped programs over a longer period of time, or to what extent they help students learning English as a second language. These issues are important to resolve, if maximum use is to be made of the taped read-along strategy.

Research Questions

Thus, we planned the present study to investigate the benefits of the widely-used tape-assisted Rainbow Reading Program over two school terms, with a larger sample of struggling readers, in their ongoing school programs. The particular research questions to be addressed were:

1. How much progress in reading ability does a selected group of 30 low-progress readers make when they follow the tape-assisted Rainbow Reading Program for a period of four months?
2. Do the benefits of such a program spread to writing, spelling and oral language skills?
3. Do second-language learners (L2) benefit as much as first language users (L1)?

Design of the Evaluation

The study could best be described as action research. We were interested to investigate whether, and how much the Rainbow Reading Program would assist slow-progress students of several age groups, across a range of schools, who were asked to take the Rainbow Program in their normal classes. The project was undertaken over the latter half of the 2001 school year. The students came from eight schools in suburban Auckland, the largest city in New Zealand. The schools represented a wide range of socio-economic levels, from below average to high, and included many

different ethnic and language groups. We selected only those schools where the chosen audio-taped program was already being used, where the staff were willing to meet our conditions of administering the study, and where they did have enough suitable students. In addition, we needed schools with many second-language learners. Classroom teachers identified students who were at least two years behind their age-mates in reading, and were making very little progress. In the final intervention group, there were 10 students in Grade 2, 10 in Grades 3-5, and 10 in Grades 6-7.

To demonstrate effectiveness, we selected several normed tests which could provide reference groups against which the students' progress could be compared. Our logic was that if students who are two years below their age mates in reading, and showing very little progress, (the criteria for inclusion), then any large gains in a short space of time would be evidence of effectiveness.

At the outset of the study, the mean age of the subjects was 9 years 6 months, with a range from 7 years 2 months to 12 years 2 months. The L2 students came from a variety of countries, including Samoa (4), Korea (3), Tonga (2), and several East European countries. Most had lived in New Zealand between one and three years, and most spoke their first language at home.

Evaluation Measures

We used a variety of reading and language measures to assess the students' baseline levels, and all these measures were re-administered, (in a parallel form where available) after the intervention.

1. *Rainbow Reading Age Level:* The taped reading program, (known as the Rainbow Reading Program) includes a series of unseen books, which were graded into six

age levels, according to a widely-used readability measure, the Noun Frequency Method, (Elley & Croft, 1989), and confirmed after extensive trialling with students of suitable age. Students in our project were tested individually by their teachers, on sample passages from these Rainbow Books, to determine an appropriate level to begin the taped program, and to provide a baseline measure. The criterion used to determine the child's level, was the highest level they could read unseen text, with an instructional accuracy of 90-94%. If students met the criterion for Grade 1, (ie. they succeeded on the two passages for 6-7 year-olds), but failed for Grade 2, (7-8 year-olds) they were assigned a baseline level of 6.5 years. These pretest levels ranged from 6.5 years to 10.5 years for the whole sample, but most were reading below the 8 year level. (See Table 1)

2. *Burt Word Reading Test (1981):* This is a test of word recognition, administered individually. It was developed in the United Kingdom, and adapted for local schools by the New Zealand Council for Educational Research. Students read a series of graded words in isolation, from age 5 level to age 16. The reading ages of our group ranged from 6.7 to 10.9 years, and most were reading two or more years below their chronological age.

3. *Neale Analysis of Reading Ability (1999):* This is an individually administered prose reading test, developed in Australia. Students read aloud to the tester, from a series of graded passages, and respond, orally, to comprehension questions on each passage. Students were assessed on reading accuracy, (number of words correctly read aloud) and comprehension (number of questions answered

correctly). Strict rules are applied for what counts as correct and when to stop the child from advancing further through the test.

4. *Peters Spelling Test:* This test was developed in England by Margaret L Peters (1970). It consists of 67 words, covering a range of difficulty from 5 to 15 years. The student's task is to write down the words, as they are dictated. The test was administered to individual students or small groups in this study. The raw scores are converted to a Spelling Age.
5. *Writing Test:* Students were asked to retell, in writing, a short story that was read to them immediately beforehand. They were allowed 10 minutes to complete their writing. For each student, the number of words written and the time taken was recorded. We used different stories in the pretests and post-tests. This test has no official norms.
6. *Test of Oral English Language, (van Hees, 1999):* This is an individually administered procedure, designed to assess students' ability to retain and reproduce language structures, vocabulary, and sequence. Ten sentences of increasing complexity are read aloud to the student, one at a time, and students are required to repeat each one aloud. Pretest scores ranged from 3 to 10, with a mean of 6.41 out of 10. Although there are no published norms, the author stated that most 8 year olds (Grade 3) were able to gain a perfect score of 10.
7. *Teacher's Ratings:* Teachers were asked to rate each student's achievement in literacy in the classroom program, using a 5-point scale. Most were rated 2, or " Not very successful", before the study began..

Further questions were asked in the post-test interviews, about the areas where the teacher noted any improvement in the students' literacy. The students were also asked how they thought the taped program might have helped them.

The administration of all the pretest and post-test measures was carried out by the researcher (first author), except the initial Rainbow Reading assessment, which was undertaken by each student's own teacher.

Strategy Description

The selected students had a taped reading session at least four times each week, over a period of two school terms (18 weeks). Three students stopped sooner (after 8, 11 and 12 weeks respectively) as they had made enough progress to manage without further assistance, and four students continued for another four to six weeks, as they needed more time to be able to work at the current class level.

Most students were withdrawn from their classrooms for 30 minute sessions under the supervision of a trained teacher or teacher aide. Students worked with books, individually, at their instructional level, according to the directions in the manual. Thus, a tutor first assesses the children's reading level, and then guides them to a one of the 100 books judged suitable to start with.. The students work through the book while listening to the tape, and repeat the process as often as needed to reach fluency. They practice reading without the tape, then have a conference with the tutor. They practice on several books at the same level until the tutor judges them ready to move on.

Students also kept a personal handbook, in which they recorded the books read, levels reached, number of times each book was read, and details of their conference with the tutor. These handbook details were helpful in making supplementary analyses of the data.

During the intervention, the researcher (first author) visited each school every two weeks, to observe the program in action, and to collect data on the number of books read, student reactions to the program, and teachers' ratings of their students' progress. She took no part in assisting with the tutoring.

Results and Discussion

Firstly, we describe details of the way the program was actually received by the students, as opposed to the ideal program that we prescribed. Then, we outline the progress made by the students.

The Received Intervention Program

While the teachers participating in the project agreed to cooperate as best they could, the daily circumstances of large schools were such that they sometimes failed to administer the program exactly as intended. Student absences also meant that some reading sessions were missed. One student was dropped during the study, because she transferred to another school, reducing the sample to 29. Nearly all of the students spent between 16 and 20 weeks on the intervention, but there were many distractions in that period. Thus, they had an average of 50.45

sessions, which is 22 less than was prescribed. During the intervention, they read an average of 20.28 books, and most of these books were read just under six times (5.8). This figure is close to that suggested by the program. However, we did note that the older students, in Grades 6-7, had fewer sessions (36.8), and consequently read fewer books, (17.1).

Students' Test Scores

Table 1 presents the pretest and the post-test data, for all reading and language measures, for L1 and L2 students separately. As the intervention took place over a period of four months, it was judged important to allow for this time lapse in evaluating the results. Such an adjustment has not been common in earlier studies, as most retarded readers make little progress at all in an intervention of only two or three months. In Table 1, for each test with age norms, we have increased the actual pretest scores by two months, which represents half the duration of the project. The assumption is made that these students, who had made less than half the normal rate of progress since starting school, might have been expected to make no more than two months progress in the four months of the intervention. No such adjustment was made for the writing and oral language tests, as they had no age norms, and they showed virtually no improvement with age in this sample.

(Table 1 about here)

Column 1 shows the students' number (1-29), and Column 2 gives the students' Grade level, (2-7). Next is the pretest Rainbow Reading Level (RRL), increased by 2 months (0.2), to allow for the intervention period. This adjusted level represents the expected post-test level, if no gain had occurred. Next, is the actual post-test RRL. Thus, Student No.1, who was classified as L1, and was in Grade 2, started with a

pretest RRL of 6.5, which was increased by 0.2 to 6.7. His post-test RRL was 8.5, so he gained 1.8 grade levels higher than expectation.

The next four pairs of columns show, for each student, the pretest (adjusted) and post-test age levels for the Burt Word Recognition Test, the Neale Accuracy and Comprehension Tests, and the Peters Spelling Test. The last two pairs of columns show the Writing and Oral Language raw scores, which are not corrected for maturation, as they are not normed tests.

Half the sample (14 students) began their taped reading intervention at the 6-7 year level, as indicated by their RRL scores. Most of the remaining students started at either the 7-8, or 8-9 year levels.

Rainbow Reading Levels (RRLs): A study of the Rainbow columns in Table 1 shows that all but two of the students made good progress up the RRL scale during the intervention. A sign test shows a significant difference ($z = 4.65$, $N = 29$, $p < .01$) Fourteen students were able to read text at a level over two years higher than they started, and 12 more moved up by 1.8 years. With the aid of the audio-tapes, and guided practice, these 26 students, who had made so little progress before, had caught up over two grade levels, on average, and were thus able to read books at their expected grade level. The related research question to investigate is, have they also improved their reading skills on other materials?

Burt Word Recognition Test: On this test, 24 out of 29 students (83%) showed greater progress than expected, and 7 of them gained more than 12 months in the 4 month intervention. We used a rank test of paired observations to test for significance and found a z score of 4.20 ($N = 28$), $p < .01$. The skill of recognising words in isolation has shown a significant improvement during the intervention. It is noticeable that six

of the L2 students demonstrated gains of more than 12 months on this skill, while only one of the L1 students did so.

Neale Accuracy Test: On this test, 21 out of the 28 students (75%) showed greater progress than expected, ($z = 3.66$, $N = 28$, $p < .01$), and three of them gained by 12 months, or more. The ability to read text aloud, without error, has clearly improved during the intervention. Once again, the L2 students showed greater gains. In fact, the student profiles for word recognition and accuracy in reading text aloud were very similar. The gain scores rose and fell together.

Neale Comprehension Test: On this test, 17 students (out of 28) exceeded expectation, which was only just enough to show a marginally significant gain on a one-tailed test ($z = 2.05$, $N = 28$, $p < .05$). It seems that the ability to comprehend unfamiliar text, (while reading aloud), is given a boost by a four-month audio-taped intervention, but the gain was less impressive than for the other skills.

Peters Spelling Test: On this test, 18 out of 25 students (72%) exceeded expectation, indicating that there were positive effects on the students' spelling ability during the intervention ($z = 3.11$, $N = 25$, $p < .01$). Six students gained by more than a year. The N was reduced to 25 on this test due to absences.

Writing Test: Although there were no norms to allow for a maturation factor during the 4-month intervention, it is clear that most students made large gains in the volume of their writing. Overall, 25 out of 29 students showed gains, (86%), and 21 increased their score by more than the standard deviation (16.0). The rank test for paired observations produced a significant z value of 4.44 ($N = 29$), $p < .01$.

Oral Language: On the pretest, three students had a perfect score, so with three absentees, the sample was reduced to 23. Of these students, 18 showed improvement, (78%) and 13 improved by more than the pretest standard deviation of the whole group. The sign test was used to check significance, as there were many tied ranks, and the resulting z value was 3.84, ($N = 23$), $p < .01$.

Summary of Student Progress

The overall interpretation of Table 1 is clearly positive. The intervention increased these weak readers' ability to read more complex text successfully, and had beneficial effects on their word recognition, their accuracy in reading aloud, their reading comprehension, their spelling ability, the volume of their writing, and their oral language ability.

Closer inspection of Table 1 revealed other trends. Our third research question asked whether L2 students also benefited from a taped reading program. On this matter there is little room for doubt. The L2 students actually showed more consistent gains than the L1 students. Thus, the L1 students showed clear improvements in 71% of the comparisons made between their respective pre- and post-test scores, while the L2 students showed gains on 85%. The main difference was found in the Neale Test of Comprehension, where L1 students showed gains on 47% of the comparisons, while L2 students showed gains on 85%. On all tests, L2 students improved as well or better than L1 students. Looked at another way, the rate of improvement for L2 students was more than twice as much as the L1 rate in the case of reading comprehension and spelling, and almost as great (1.90 and 1.86 times the L1 gains) in the case of word recognition and reading accuracy, respectively.

When scores were compared across the columns of Table 1, we discovered that 5 students stood out because they showed very few gains. Students 3, 6, 15, 17 and 19 failed to show improvement on 51% of the test comparisons made, and these same students made minimal progress on the Rainbow Program also. Three of them moved up by less than a year, whereas the typical gain was over two years. Analysis of the research records showed that two of these students had fewer sessions than most, and another one was described as "low ability".

By contrast, ten students stood out because they made impressive gains on most tests. For instance, No. 27, an L2 (Korean) student, improved over four years on the Rainbow levels, over two years in spelling, and over 12 months in both word recognition and accuracy, in a period of only 4 months. The Rainbow Reading Program was clearly of great benefit to him. The other "rapid recoverers" – Nos. 2, 7, 13, 18, 22, 24, 25, 26 and 28 showed consistent gains in nearly every case, with several jumps of more than two years. Again, the improvement of the L2 students is apparent.

Additional Findings

Student Attitudes: When interviewed by the researcher, all students claimed that the taped program had helped them improve their reading. Some referred to the fact that they now enjoyed reading more, others that they could read "harder books", or more difficult words.

Teachers' Views: When asked to rate their perception of student performance in the classroom, on a five point scale, there was an encouraging improvement, from a pretest mean of 2.3 to 2.9. A score of 2 on this scale, represents the belief that "the student makes an attempt at reading and writing tasks, but is not very successful",

while a score of 3 represents the belief that "the student works conscientiously, and is reasonably successful on reading and writing tasks". When asked to specify the areas of perceived improvement, teachers pointed to many aspects of reading, from word attack, to comprehension, to greater willingness to try, to greater enjoyment. While these findings on student attitude and behaviour may well have been influenced by subjective factors, they are clearly consistent with the view that students found the intervention helpful in a variety of ways.

Number of Books Read: One assumption of a taped reading program is that students will progress in reading if they are exposed to more books. Indeed, there is research to show that students who read more, gain more in reading skill.(Clay, 1991, p. 208). Therefore, we predicted that the students who read the most would make the largest gains in reading levels. We used the students' own records of the number of books read, and computed the correlation between these numbers and the students' gains in reading level. The resulting correlation coefficient was positive and clearly significant. ($r = 0.55$, $p. < 0.01$). The five students who read at least 28 books showed gains of 3 to 5 levels, well above the mean for the total group (2.17). Meanwhile, the six students who showed the least gain, (0-1 level) read an average of only 14 books. While we cannot rule out other explanations, this finding is consistent with the view that increased exposure to text is helpful for struggling readers (Clay, 1991).

Some might claim that a "practice effect" could account for some of the gains we found. However, it should be pointed out that, in most cases, we used an alternate form of the test for the post-testing, so that students were responding to different questions. In the case of the Burt and Peters' Tests, which had no alternate forms, it is

difficult to see how the students could benefit from taking the pretest, as no feedback was given to them. Moreover, the 18 week gap meant that students would be unlikely to remember much of the contents of the tests. The only variable where a practice effect may have operated was the oral language test, as there was no parallel form available, and it is possible that some students may have recalled some of the sentences they were asked to repeat.

Summary

In response to our first research question, it was clear that nearly all the students, at each grade level, made substantial progress in their reading levels, while working through the Rainbow Reading program. This finding confirms the conclusion drawn from each of the studies reported earlier, in North America and New Zealand. Taped read-along programs do help enhance the ability of struggling readers to cope with more demanding text.

In response to the second question, we can conclude that the gains in reading the taped books were accompanied by significant improvements in the students' word recognition, their accuracy in reading aloud, their writing, their spelling and their oral language. Their reading comprehension showed significant improvement, but not to the same extent. In this respect, the findings are similar to those of Dowhower (1987) on a smaller, younger sample. While progress has been consistently made by weak readers, on several components of the reading process, it may take longer than four months to make a clear-cut impact on the ability to comprehend unfamiliar prose. After all, this ability depends greatly on a student's background knowledge and reasoning ability, both of which have been developing slowly over many years.

With respect to the third research question, we found that second language learners made just as much, if not more progress than first language learners, while working on the taped program. Our study confirms the results of the research of Koskinen (1999), with beginning readers. There is good reason to include L2 students in any planned remedial programs which use audio-taped procedures.

Teachers and students also expressed positive attitudes towards the Rainbow Program, and more students claimed to enjoy reading after the intervention.

In many cases, the taped program was not always administered as intended. Under ideal conditions, the level of impact might well have been greater. This conclusion is supported by the finding that the students who read the most books in the program showed the greatest gains. Nevertheless, all except two students made some measurable progress on the taped reading levels, and a consistent gain of more than two years, in only 18 weeks, is similar to the gains shown by other researchers.

The few students that showed minimal benefit during the project, appeared to be atypical - had fewer sessions, or were of “low ability”.

Limitations of the Study

There was no control group in this action research, as we were reluctant to spend a great deal of time assessing students who were failing, and withholding from them an intervention that already had demonstrated benefits for many students. It could be argued that this feature weakened the significance of the findings, as the students may have improved significantly without the treatment. However, nearly all students showed a two-year deficit at the outset, which was an indication of very slow

progress, so that our adjustment of pretest scores on the normed tests, to allow for two months progress during the intervention, was probably realistic. It is difficult to believe that this group of struggling students, after years of failing, would suddenly have made more than two months progress in four months, without the intervention. Another limitation was the relatively small sample, which was reduced to 29, after one student left his school, and there were several absences on some of the post-tests. Nevertheless, the trends on all except one test, were clearly significant, and confirmed previous studies conducted on smaller samples. We hope that others will build up the research base for taped readalongs further.

In conclusion, the findings of this study support a small but growing body of research, that a well-organised, taped read-along scheme can significantly improve the reading skills of elementary school students who are making little progress in their normal classroom programs. The impact is positive for both L1 and L2 students, and it appears that the improvements in their reading are accompanied by significant gains in their spelling, writing and oral language.

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TABLE 1

PRE-TEST AND POST-TEST SCORES FOR ALL STUDENTS (N = 29)

		Rainbow Rdg Level		Burt Word Recognition		Neale Accuracy		Neale Compr.		Spelling Age		Writing No.Words		Oral Lang.	
		Pre*	Post	Pre*	Post	Pre*	Post	Pre*	Post	Pre*	Post	Pre	Post	Pre	Post
L1 Students															
1.	Gr.2	6.7	8.5	7.2	7.4	7.0	7.3	7.3	7.4	7.3	7.9	52	45	8	10
2.	Gr.2	7.7	9.5	7.9	8.3	7.8	7.9	7.1	7.3	8.7	9.5	38	54	6	10
3.	Gr.2	6.7	8.5	7.5	7.3	7.4	7.3	7.0	7.4	7.3	7.5	72	60	10	10
4.	Gr.2	6.7	9.5	7.9	8.4	7.7	8.2	6.7	7.6	8.0	7.5	9	54	4	4
5.	Gr.2	6.7	8.5	7.3	7.7	7.0	7.3	7.3	7.3	7.4	7.0	39	48	7	NA
6.	Gr.3	6.7	7.5	7.0	7.3	6.8	6.7	7.3	7.2	6.8	6.4	41	42	5	7
7.	Gr.3	6.7	9.5	7.0	7.3	7.0	7.2	6.8	7.5	6.2	6.7	25	78	NA	10
8.	Gr.3	7.7	10.5	7.9	8.1	7.7	7.8	8.5	8.1	8.0	7.9	35	77	9	9
9.	Gr.3	6.7	9.5	7.5	7.4	6.8	7.0	7.6	7.5	6.9	7.7	60	63	10	10
10.	Gr.4	7.7	10.5	7.8	8.2	7.8	7.5	7.8	7.8	9.7	10.5	37	64	7	7
11.	Gr.6	8.7	11.5	9.6	11.1	9.7	10.5	12.4	10.9	10.4	11.6	46	140	7	9
12.	Gr.6	7.7	9.5	8.0	8.6	7.7	8.3	7.1	7.9	8.7	8.7	27	79	4	7
13.	Gr.6	8.7	11.5	7.8	8.5	7.7	8.5	8.6	8.8	8.1	9.0	26	84	8	10
14.	Gr 6	10.7	11.5	10.4	11.2	9.5	9.8	12.0	11.6	11.8	12.3	69	133	7	10
15.	Gr.6	9.7	10.5	8.3	8.4	8.0	8.1	8.6	8.4	8.3	8.2	62	50	8	9
L2 Students															
16.	Gr.2	6.7	9.5	7.4	8.6	7.3	7.7	7.5	7.0	NA	8.2	50	86	6	7
17.	Gr.2	6.7	6.5	6.8	6.5	6.5	6.6	6.2	6.3	6.3	6.7	23	42	10	10
18.	Gr.2	6.7	9.5	7.0	7.5	6.6	7.3	6.6	7.6	6.8	7.2	32	53	6	7
19.	Gr.2	6.7	6.5	6.7	6.7	6.4	6.4	6.4	6.3	6.3	5.8	27	28	3	5
20.	Gr.2	6.7	8.5	7.1	7.6	7.1	7.1	7.3	7.4	NA	7.9	49	82	7	8
21.	Gr.4	8.7	11.5	8.9	12.5	9.2	9.5	7.1	7.8	NA	11.0	39	39	8	8
22.	Gr.4	8.7	11.5	8.8	11.3	7.7	8.9	6.5	7.8	8.7	NA	39	100	4	5
23.	Gr.4	7.7	9.5	7.1	7.7	7.4	7.4	7.5	7.4	8.4	8.5	36	83	8	10
24	Gr.4	7.7	9.5	7.4	8.0	7.5	7.4	7.0	7.9	7.4	9.0	40	97	3	5
25	Gr.5	8.7	11.5	10.9	12.6	8.7	10.8	7.7	9.0	10.0	12.7	66	92	NA	NA
26	Gr 6	6.7	8.5	6.9	8.7	6.9	7.0	7.0	7.5	8.3	8.7	58	101	4	6
27.	Gr.6	6.7	11.5	8.2	9.8	7.4	8.9	7.1	7.4	8.9	11.6	14	88	4	4
28.	Gr.6	8.7	10.5	8.2	8.5	7.7	8.3	7.9	8.3	8.3	10.5	65	111	7	10
29.	Gr.7	7.7	8.5	8.0	8.0	7.1	NA	6.4	NA	6.5	9.2	36	77	3	5

* Pretest scores increased by 2 mths, to allow for gains without the intervention.