

Research Supplement

What Really Happens During a Paired Reading Project?

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Paired Reading (PR) has been used with apparent success to encourage children's oral reading ability (Morgan, 1976). By now most readers will be familiar with PR. It may be summarised as follows. During *Simultaneous Reading* the tutor and tutee read aloud together from reading material chosen by the tutee. If the tutee hesitates or fails to self-correct a mistake the tutor models the word, the tutee repeats it and the two continue to read together. The tutee signals if he/she wants to read independently. In the event of the tutor supplying a word during *Independent Reading* then the two subsequently read together until the tutee signals again. The tutor praises the tutee for signalling, for self-correction and for any other desirable reading behaviour.

Early PR projects involved parents as tutors (eg Morgan and Lyon, 1979). Recently a number of successful peer-tutored PR projects have been reported, either involving tutors of the same age as the tutees (same-age projects) or older (cross-age projects). The first published peer-tutored PR project was that of Winter and Low (1984). Other projects are reviewed by Winter (1986) and Topping (1987).

The Kirklees Review

A major review of the 1984-87 Kirklees paired reading project (Topping, 1989) summarises the data from a pool of 185 projects in 83 schools, involving pre- and post-project data for 2,370 participating children. Where the relevant data are available, they indicate the following characteristics.

a During PR projects pupils made mean gains of 3.3 times the 'normal' rate in reading accuracy and 4.4 times the 'normal' rate in reading comprehension.

b Gain rates were well in excess of the 'baseline' gains being made by pupils before the project began.

c Project gains were maintained at follow up.

d Gains during a project and at follow up were in excess of those for control or comparison group children.

e Gains made by pupils were unrelated to their initial reading ability but were related to their age (older pupils tending to make larger gains).

f Gains were largest for longer projects but there was little evidence of any relationship with frequency of sessions or amount of tuition time.

g Natural parents, peer tutors and adult volunteers all appeared to be effective in improving tutees' reading accuracy. The same was true for tutees' reading comprehension, except that cross-age peer tutors did not appear to do well here. Teacher volunteers appeared to be relatively ineffective overall.

h Pupils from minority ethnic groups appeared to make gains as great as their Caucasian classmates.

i Parent and peer tutors indicated via questionnaires that tutees were not only reading better but were displaying new attitudes to reading (eg were more confident about reading, were reading more, enjoyed reading more, and were more willing to read). There were indications that teacher feedback was slightly less positive. Tutee feedback on the other hand was extremely positive; tutees felt that they were reading better and liked reading more.

j Among those who had been peer-tutored, tutees who had same-age tutors gave more positive feedback on questionnaires than those who had cross-age peer tutors.

k A few parents reported improved behaviour and happier relationships at home.

l In peer-tutored PR projects tutors made slightly larger gains than tutees.

m Sex combinations appeared to influence the gains made in peer-tutored projects. Female-female tutor-tutee pairings produced good gains for the tutee but not the tutor. Mixed-sex pairings produced good gains for tutors but not tutees. Male-male pairings produced above average gains for both parties.

Why do PR projects work?

Advocates of PR have offered a variety of explanations to account for its apparent effectiveness. Morgan, the first to report the approach, offered a broadly behavioural analysis, emphasising the importance of the tutor both praising, and supplying a model for, correct reading (Morgan and Lyon, 1979). Bushell *et al.* (1982) drew attention to other possible factors, arguing that by de-emphasising the use of single-word decoding and maintaining the flow of reading, PR provided opportunities for the tutee to develop ability to use cues of grammar and meaning and consequently read with understanding. They also suggested that PR improves self esteem by minimising attention to errors.

Explanations such as these, which focus on various aspects of the PR technique, may be inappropriate. Swinson (1986) pointed out that research designed to compare the effectiveness of PR and other recently developed tutoring techniques fails to identify any as being clearly superior. Of a large number of studies in which such a comparison was made few involve a concurrent comparison group and careful analysis of data. Joscelyne's (1989) study (involving a 'listening-to-read' comparison technique that was actually PR without 'simultaneous reading') is a rare example of a good quality study which actually found PR to be superior.

By contrast, the carefully conducted studies of Grigg (1984) using 'Listening-to-Reading' as a comparison technique, Burdett (1986) using 'Independent Reading', Lindsay *et al.* (1985) using 'Relaxed Reading' and Wareing (1985) using 'Read Aloud', all failed to find evidence for PR superiority over comparison techniques.

The reason may lie in features common to the tutoring methods employed in these studies. All emphasised getting the tutee to read daily for a certain length of time. All involved a tutor. All emphasised the importance of tutor praise. If any of these factors is important in producing reading gains for tutees then this would explain why these different techniques often appear to be equally effective.

The importance of reading in reading projects. Surprisingly perhaps, engagement in reading appears not to be a major factor in producing tutee gains. The Kirklees review, summarised earlier, found little evidence of a link between tutee reading gains and either frequency of tutoring or amount of time spent reading. This confirms findings in other PR research; for example, Miller *et al.* (1986), who also found no link between gains and amount of time spent reading, and Winter (1988), who found no link with amount of material read.

Also relevant is the common finding that pupils in control groups which engage in private reading seldom make gains as large as those in groups receiving tutoring; for example, Wheldall and Mettem's (1986) research into the Pause-Prompt-Praise tutoring technique.

Finally, the importance of reading in tutoring projects is thrown into doubt by reading projects which demonstrate reading gains despite the fact that little reading has actually taken place (eg Young and Tyre's [1983] work using 'Prepared Reading', and Wareing's [1985] findings using the 'Linguistic Method'), and projects which demonstrate reading gains despite being in no way concerned with reading (eg Wooster's [1986] work on social skills training and the work of Rocks *et al.* [1985] in the area of teacher-pupil relationship enhancement).

The importance of a tutor in reading projects. It seems plausible that the presence of a tutor in reading projects has an effect on the tutee's interest, confidence and/or persistence when reading and therefore influences the reading gains made. However, evidence suggests that this effect is small or non-existent. Tutees who receive tutoring from an untrained tutor commonly make smaller gains than those who have received trained tutoring, regardless of the technique in which the tutor has been trained. The work of Limbrick *et al.* (1985) and Crombie and Low (1986), using PR, and of Wheldall and Mettem (1986), using Pause-Prompt-Praise, are cases in point.

The importance of praise in reading projects. The role of praise for reading is questionable in view of 1 the social skills training and relationship enhancement research already mentioned, in which there were no opportunities for praise of this sort to occur, and 2 evidence from a small-scale study by Heath (1981) that massive amounts of praise during a reading project can fail to produce the sorts of gains produced by PR and 3 evidence that, despite the training given, tutors, at least those in PR projects, often fail to use praise much at all. This last matter – aberrant PR tutors – is important and deserves further attention.

Do PR tutors use PR?

It is quite clear from the PR literature that many tutors fail to employ the PR techniques in which they have been trained. Most of the evidence for this is anecdotal (eg Wareing, 1985; Spalding *et al.* 1984; Topping and Whiteley, 1989) or based on interview data (eg Elliott, 1989) or observation checklist data (Bushell *et al.* 1982).

The suspicion that there is a large number of PR tutors who do not actually use PR is strengthened by observation of PR training tapes prepared in Kirklees and made available internationally. The present author has analysed sequences purporting to demonstrate the use of PR and is satisfied that

the tutors shown used very little praise (once every 64 words read by the tutee). Several of the tutors appeared not to praise at all. This is important because these sequences have formed a major component in the training of countless parent-tutors worldwide. For more details of the video-analysis see Winter (1990).

What is needed in the PR research literature is direct and systematic measurement of tutor behaviour. The only studies to have done this are the peer tutor studies of Limbrick *et al.* (1985) in New Zealand and Winter (1988) in Hong Kong. In both studies it was found that tutors who had received PR training failed to adhere to the technique closely when working with their tutees. They appeared to employ little praise and to correct few errors.

The Winter (1988) study went further by examining the relationship between tutor adherence to PR and tutee reading gains. The issue of the link between tutoring behaviour and outcome is a crucial one. If any of the technical aspects of PR account for its apparent effectiveness we should see an association between tutor adherence to PR and tutor effectiveness. For this reason there follows a short account of the research study.

The 1988 Hong Kong study

Ten- and eleven-year-old pupils from two English-language primary schools in Hong Kong took part in concurrent peer tutor workshops involving the use of PR techniques. Pupils were drawn from four top junior classes at School A, and from two classes at School B. They were invited to act either as helpers (tutors) or as readers (tutees), the choice about whether to participate and what role to take being left to the individual child. Tutees chose a tutor with whom they would like to work. Sixteen pairs resulted for School A, 27 for School B. Tutors and tutees were taught how to use PR techniques in a training session involving a description of PR, demonstration with a volunteer child, practice in tutor-tutee pairs and concurrent feedback. Tutor-tutee pairs worked for 10 minutes at the start of each school day for the six weeks the workshop lasted. During this time teachers associated with the project supervised the performance of tutors.

The reading ability of tutees was assessed at project start and end by way of the GAP Reading Comprehension Test (McLeod, 1970). Equivalent forms of the GAP were used, with order randomised.

Tape recordings were made of certain tutoring sessions, selected in advance of the project. They were analysed later to provide information on tutors' adherence to PR. Two recordings from each of 18 tutor-tutee pairs were intact, fully audible and accompanied by the text read. Tutor behaviour was scored for a continuous recording of five minutes, starting from the beginning of the second minute of the PR session.

Eleven features of tutor behaviour were found to be reliably measured; they are listed in Table 1. Variables numbered 1 to 6 are average frequencies for the 36 five-minute periods. Variables numbered 7 to 11 are average ratios.

Results

Tutor behaviour. Measurements of tutor behaviour revealed no differences between schools; therefore data from the two schools are combined for presentation in Table 1. The table

shows that despite their having received training of a type and scale typical of many PR projects, the tutors generally failed to follow the procedures in which they had been trained and supposedly supervised. Tutors were particularly negligent in regard to praise. The highest rate of praise in the sessions analysed stood at a level of one event per 38 seconds, or once in every 50 words read. Six tutors failed to use praise at all.

Table 1 Tutor behaviour during paired reading sessions

Variable	Mean (SD)	Min.	Max.
1 Number of errors corrected in any way	2.97 (2.88)	0	15
2 Number of errors left uncorrected	15.25 (8.08)	0	42
3 Number of instances of praise	1.42 (1.73)	0	8
4 Number of words modelled (short pause; under two seconds)	1.36 (1.42)	0	7
5 Number of errors corrected in any other way	0.19 (0.82)	0	6
6 Number of words modelled	2.78 (2.34)	0	11
7 Number of modelled words/errors	0.18 (0.12)	0	0.64
8 Praise/number of words read	0.00 (0.00)	0	0.02
9 Modelled words/corrections	0.98 (0.08)	0.70	1.00
10 Short-pause modelling/corrections	0.43 (0.33)	0.00	1.00
11 Corrections/number of errors	0.19 (0.16)	0	1.00

A large number of tutors failed to correct errors made by tutees. Errors left uncorrected outweighed errors corrected by a ratio of 4:1. Many errors left uncorrected were major; in an extreme case a tutee turned over two pages without him or his tutor appearing to notice.

Where error correction occurred at all tutors were quite conscientious in employing modelling (98 per cent of error corrections). However tutors tended to be careless about timing. About two out of every five words modelled were supplied after a pause substantially shorter than the four seconds which the tutors had been trained to use.

Tutors displayed consistent behaviour over the two sessions observed, despite an intervening period of several weeks. Tutors' failure to adhere to PR procedures therefore appears to have been persistent.

Tutees' reading gains. There were no significant differences between the two schools with respect to average reading age initially, average at the end of the six weeks' project and average gain in reading. For the two samples combined the initial and final means and standard deviations were 10.26 (0.53) and 10.67 (0.71) respectively. The significant ($p < 0.01$) gain was equivalent to about five months' reading age. As in the Kirklees review (Topping, 1989) there was no evidence of a link between initial reading age and reading gains.

The link between tutor behaviour and tutee gains. No relationship was found between any of the tutor behaviours measured during PR and reading gains made by tutees at project end. The implication is that adherence to PR procedures, over the range observed in this study, has no impact whatsoever upon the effectiveness of tutoring, at least in regard to the tutor variables measured and the range of values available in the data.

Discussion

The apparent absence of a link between PR adherence and reading gains is important. It offers additional support for the

contention made earlier in this paper that the success of PR projects may not lie in the technique itself. In view of the evidence already reviewed, which eliminates other factors such as reading practice, modelling effects and praise, it is worth considering further what these factors might be.

The opinion of this writer is that projects designed to improve reading performance, whatever tutors or techniques are used, succeed largely by changing the way the tutee feels about reading: perhaps, most importantly, his or her motivation, confidence and self esteem as a reader. Furthermore, the key to success lies in aspects of the project itself: how it is organised and how all concerned respond to being participants. In short, project effectiveness may depend upon affective and organisational factors.

It may be useful to turn from education to industry and to recall a famous experiment in the early part of the century at Western Electric's Hawthorne plant. Workers who were assembling telephone relays were subjected to various changes in working conditions in an attempt to study effects upon output. The workers were briefed, at the start of the experiment and at various points thereafter, regarding the proposed changes and their expected effects. Any changes of which they did not approve were abandoned. All workers were told they should work at a comfortable pace throughout the study. The researchers found that output rose slowly and steadily regardless of the changes in working conditions.

In a detailed account of the Hawthorne study, Owens (1987) concludes:

the [workers] were made to feel they were an important part of the company . . . they had become participating members of a congenial, cohesive work group . . . that elicited feelings of affiliation, competence and achievement. These needs, which had long gone unsatisfied at work, were now being fulfilled. [They] worked harder and more effectively than they had previously. . . The higher productivity . . . resulted from the fact that – under participative leadership – the groups of workers themselves developed cohesiveness, morale, and values that were highly motivating (pp.95-96).

Simple substitution in the above paragraphs of the word 'workers' by 'pupils', 'company' and 'work' by 'school' and of 'working' by 'reading' suggests that the same set of factors might account for the success of PR projects. In peer-tutored PR, for example, the key to success may lie in steps to:

- 1 build up expectations and commitment (herein may lie the real importance of training, as well as supervision)
- 2 improve participation in decision making (perhaps by allowing pupils to decide whether they act as tutors or tutees)
- 3 increase enjoyment and interest (perhaps by building in extrinsic reinforcers, certificates, group discussions, etc.)
- 4 build group affiliation and spirit (perhaps by involving the whole class, introducing good natured competition into the project, and the like).

The viewpoint offered here accounts for findings in peer-tutored PR research that are otherwise quite difficult to

explain. Mentioned here are the issues of tutor gains and tutor training.

The Kirklees review outlined earlier (Topping, 1989) found that PR tutors made gains on average greater than those of their tutees. This finding confirms that of several small-scale studies from Winter and Low (1984) onwards. Tutor gains are difficult to explain in terms of PR itself. It may be that they are a consequence of the feelings of enjoyment, interest, responsibility and commitment that are generated when a child is put in the role of teacher.

Research reviewed earlier suggests that tutees make larger gains when they are helped by trained tutors. Why is training so important when tutors deviate from the technique, and do so without sacrificing their effectiveness as tutors? Perhaps the importance of training lies in its effects on the commitment of all concerned, regardless of what tutoring technique is involved or whether tutors actually use it when tutoring.

Conclusion

Experimental work is now needed to identify the role that affective and organisational factors might play in determining the effectiveness of tutoring projects, whether parent- or peer-tutored, PR or not.

Among affective factors which may influence tutee gains are:

- a the attitudes of pupils to reading
- b pupils' attitudes to and expectations for the project
- c pupils' perceptions of the project and the degree to which these experiences match their initial expectations
- d the attitudes to the teaching of reading of teachers associated with the project
- e teachers' attitudes to and expectations of the project
- f teachers' perceptions of the project and the degree to which their experiences match their initial expectations
- g pupils' self concept in regard to reading and other areas
- h pupils' preferred approaches to learning.

Organisational factors possibly influencing project effectiveness include training and supervision procedures. Both of these may, through their effects on affect (particularly the expectations and commitment of participants) have an impact on reading gains independent of any effect on tutoring behaviours. Other organisational features, such as those for selection of participants, division into tutors and tutees, matching of tutors and tutees, may act as additional influences on project effectiveness.

Research presently being undertaken in Hong Kong is examining the effects of some of these factors within the context of peer-tutored PR projects. The research design is closely comparable with the 1988 Hong Kong study. However, all pupils in the present research (whether tutors or tutees) have completed pre-project questionnaires designed to assess approaches to learning (Biggs, 1987), self-concept (Marsh *et al.* 1983), attitudes to reading (Estes, 1971; Dulin, 1979) and expectations (for events during the project as well as for project outcome). Teachers associated with the project have also completed questionnaires focusing on their attitudes to the teaching of reading (Vaughan, 1977) and on their own expectations for the project.

An additional feature of this research is that at the end of the project both teachers and pupils have completed questionnaires

which inquire about their experiences. The data from these questionnaires may be matched up with that of the pre-project expectations questionnaires in order to examine what effects concordant/discordant experiences (experiences which confirm/contradict expectations) have upon project success.

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and in whole-school approaches to assessment requirements in GCSE for pupils with special educational needs

document the process and the outcomes of the development work in order to provide support for teachers in subject-specific and whole-school contexts

look at constraints on access to GCSE, in the context of more general issues surrounding 'exceptional cases' and access to assessment and accreditation of achievement at Key Stage 4

present evidence of methods by which pupils with special educational needs, including low attainers, can gain national accreditation of performance and fulfil the specific GCSE requirements.

The project is being directed by Dr Patricia Broadfoot and a project coordinator and two research fellows have also been appointed.

Project on GCSE and Special Needs

The School Examinations and Assessment Council (SEAC) invited tenders for a research and development project into the General Certificate of Secondary Education (GCSE) and special educational needs in the autumn of last year. The contract has been awarded to the Centre for Assessment Studies, School of Education, Bristol University, and it began in January. It will run until June 1993.

The project will review existing GCSE provision for pupils with special educational needs and will show how better access to assessment and certification can be achieved. A research report identifying good practice, and indicating ways to improve opportunities for pupils with special educational needs to show their achievements through the GCSE, will be published. It will be accompanied by support materials designed to provide techniques and procedures whereby teachers and examining bodies can monitor and improve aspects of their assessment strategy.

The research and development programme will centre on five National Curriculum subjects: English, mathematics, science, technology and geography.

The central aims of the project are to:

examine present provision for access to GCSE courses and examinations and the suitability of assessment procedures employed in mainstream schools and in a range of special schools

identify existing good practice in the provision of opportunities for pupils with special educational needs, including low attainers, in the specified range of subjects

build on existing good practice by promoting development work in specific teaching, learning and assessment situations

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