

PRIMARY SCHOOL TEACHERS' ACCEPTABILITY RATINGS  
OF SIX PROCEDURES  
FOR CORRECTING ORAL READING ERRORS

oooooooo

A thesis  
submitted in partial fulfilment  
of the degree of  
Master of Science in Psychology  
in the  
University of Canterbury  
by  
Susan V. White

oooooooo

University of Canterbury  
February 1986

## Acknowledgements

I greatly appreciate the help from my supervisors, Dr. Nirbhay Singh and Dr. Jin-Pang Leung. For assistance with statistical analysis I am indebted to Dr. Garth Ritchie. I would also like to express my gratitude to all teachers who completed the questionnaire, without whose co-operation this study would not have been possible. Finally I would like to thank my mother for all the typing she has done.

## CONTENTS

.Chapter		Page
	Abstract	1
I	Introduction	2
	Oral Reading Errors	3
	Descriptive Studies	7
	Oral Reading Error Correction Procedures	8
	Measuring Acceptability	14
II	Method	18
	Participants	18
	Dependent Variable	21
	Design	22
	Procedure	22
III	Results	24
IV	Discussion	47
V	References	58
	Appendix 1	67
	Appendix 2	100

## Abstract

The aim of the present study was to measure primary school teachers' acceptability ratings of six oral reading error correction procedures. One hundred and twenty primary school teachers, ranging in age from 21 years to 59 years, completed a Treatment Evaluation Inventory which was used to measure acceptability. The six error correction procedures rated were: word supply, phonics, delay, previewing, drill, and overcorrection. Each participant received a case description of a male or female reader, six oral reading error correction procedures, and six treatment evaluation inventories. Participants were required to evaluate the acceptability of the error correction procedures, using one of the treatment inventories for each procedure. Results were analyzed using a latin square analysis of variance. Statistically significant differences were found between the ratings for the six procedures. Previewing was rated as the most acceptable procedure, followed by delay, phonics, word supply, drill, and overcorrection. Separate analysis of variance showed a significant interaction between qualification and evaluation, and the number of years taught and evaluation.

## Introduction

In oral reading the instructor monitors the child's reading by having the child read a passage out loud. It is what the child says aloud that reveals something of the child's reading ability and leads the instructor to make any error corrections.

Oral reading as an instructional procedure and as a diagnostic achievement tool has been controversial for a number of years. Opponents of oral reading state that it is not a functional adult skill. It has been suggested that silent reading is more fluent and that oral reading conflicts with efficient silent reading (e.g., Kirk, Kliebhan & Lerner, 1978; Spache & Spache, 1973). However, there is little empirical data to support these assumptions.

Teachers value oral reading as an important skill for beginners and less proficient readers. Oral reading is seen as a suitable medium for reading instruction. Unlike silent reading, the teacher can easily monitor the child's progress during oral reading. It is also a useful measure of reading achievement and a tool for diagnosis of reading problems. Finally, it is the best medium for remediating early reading problems (Singh & Singh, 1986a).

Regardless of the controversy surrounding oral reading, it is a common feature of classroom instruction and also of formal diagnostic and reading achievement tests. Oral reading performance is measured, for example, in each of the following tests: Gilmore Oral Reading Test (Gilmore, 1951), Gray Oral Reading Test (Gray, 1963), Diagnostic Reading Scales (Spache, 1963). Howlett and Weintraub's (1979)

survey showed that oral reading occurred in schools at all levels but with greater frequency at primary levels. They reported that 80% of primary-grade teachers included an oral reading task each day. Other investigators have also reported oral reading to be a frequently used instructional procedure, particularly with beginning and remedial readers (Austin & Coleman, 1963; Jenkins, 1979; Mason & Boggs, 1978).

Controversy also surrounds measures of oral reading accuracy. Proponents of the "top-down" information processing model see attention to accuracy in word identification as misleading the child into thinking the words are more important than the meaning (Jenkins & Larson, 1979). However, Nicholson's (1977) data from two experiments investigating the relationship between accuracy and comprehension showed accuracy did affect comprehension for some students. Jenkins and Larson (1979) also found that improving reading accuracy improved comprehension. Perfetti and Hogoboom (1975) demonstrated that children who orally read very slowly with poor accuracy also show poor comprehension. It is therefore feasible to suggest that improving oral reading will improve comprehension. Even Goodman (1967), one of the staunchest advocates of reading for meaning, has argued that children's oral reading performance can be revealing of their level of comprehension.

#### Oral Reading Errors

Oral reading errors and self-corrections are important sources of information. The type of errors made provide information on the processes the child is using in reading. An analysis of errors reveals the type of errors being made. For example, if a child substitutes a word which is similar in appearance to the written word the child is relying on

grapho-phonetic cues. If a child is relying on his/her prior knowledge, words may be substituted that mean the same but are totally different visually. Self-corrections are an important indication that the child is reading for meaning. Self-corrections are made after an error without cueing or prompting from the teacher.

The history of research on the analysis of oral reading errors has progressed through a number of different periods. Prior to 1968, research concentrated on describing characteristic patterns of oral reading errors of a given population (Gilmore, 1947; Ilg & Ames, 1950; Madden & Pratt, 1941; Monroe, 1932; Schale, 1966). While there was no theoretical framework behind this research, investigators made three important assumptions: (1) Proficient reading equals exact oral reading; (2) Each error interferes equally with reading comprehension; and (3) The number of oral reading errors that a person makes is inversely related to their reading comprehension (see Leu, 1982). Weber (1968), in summarizing the classification systems used in studying oral reading errors during this period, noted that there was great variability among definitions of categories, some systems included overlapping categories. Because of the methodological problems with this research, particularly the lack of definition of an error category, numerous contradictory findings appeared.

After 1968, researchers began to view errors in relation to a theoretical framework (Biemiller, 1970; Burke & Goodman, 1970; Clay, 1967, 1968, 1969; Goodman, 1965; Goodman, 1970; Hood, 1975/76; Weber, 1968, 1970a, 1970b). Within this framework, the reader is viewed as a user of language interacting with the graphic input as he seeks to reconstruct a message encoded by the writer. He concentrates his total

prior experience and learning on the task, drawing on his experiences and the concepts he has attained as well as the language competence he has achieved.

Research prior to 1968 counted each error the subject made during oral reading in order to calculate success at the reading task. Research after 1968 viewed errors as not being of equal importance. Goodman (1965) coined the term "miscues" in preference to errors, as it did not cast a value judgement and also suggested that differences between what the subject said and what was written were not random errors but are "cued" by the thoughts and language of the reader. Various categories have been devised for recording and analysing miscues or errors. The most well known are those of Goodman and Burke (1972). The major categories include omissions, substitution, and additions, with errors being further classified into grapho-phonetic, syntactic or semantic. There are a total of 26 categories in this classification system.

Research during this period continued to investigate typical oral reading behaviours in children. Three general conclusions have been drawn from this research (Leu, 1982): (1) Proficient readers use more contextual information during reading than less proficient readers (Au, 1977; Goodman, 1973; Smith, 1971); (2) Proficient readers use less graphic information during reading than less proficient readers (Au, 1977; Goodman, 1973; Goodman & Burke, 1973; Goodman & Goodman, 1977; Smith, 1971); and (3) Less proficient readers should receive more frequent instruction in context-use strategies (Au, 1977; Goodman, 1969/70; Watson, 1973).

However, contradictory evidence exists for each of the above conclusions. Firstly, Allington and Strange (1977), Biemiller (1970), Cohen (1974/75), Juel (1980), Stanovich (1980), and Weber (1970a, 1970b) have reported that proficient readers use equally as much or less amounts of contextual information when compared to less proficient readers. With regard to the second claim, Allington and Strange (1977), Biemiller (1970), Burke (1976), Clay (1968), Cohen (1974/75), and Weber (1970a, 1970b) showed that proficient readers use more or equal amounts of graphic information during reading than less proficient readers. And finally, Pflaum, Pascarella, Boswick, and Auer's (1980) findings did support the third conclusion but their study failed to find a significant main effect for an instructional approach when learning disabled readers were taught several contextual strategies or received instruction in decoding (Leu, 1982).

Leu's (1982) review cites three major methodological weaknesses in most of this research. One of them is the failure to define and categorize oral reading errors. For example, Burke (1976) and Clay (1969) failed to define what constituted an error. Lack of attention given to the effect of relative passage difficulty on error type is another. A number of studies (e.g., Clay, 1968, 1969; Goodman & Burke, 1973; Hood & Kendall, 1975; Weber, 1970a, 1970b) compared groups of different abilities without controlling for the relative difficulty of the text. The final major methodological problem lies in the difficulty in separating which of several information sources was involved in a multiple-source error. For example, errors may be graphically similar but syntactically and semantically

acceptable. Researchers typically ignored which information source the reader utilized in making a multiple-source error. Because of methodological problems, these findings must be interpreted with some caution.

### Descriptive Studies

Naturalistic descriptions of oral reading have shown that more teacher attention is given to oral reading errors than to accurate reading (e.g., Weinstein, 1976). A number of investigators have focused on teachers' choices or responses following oral reading errors with different ability groups. Alpert (1974) and Weinstein (1976) found only a few differences between teachers' responses to readers from different ability groups. However, Alpert (1974) found small differences that favoured lower ability groups. Weinstein's (1976) observations of the interaction between the teacher and student showed that during small group instruction, low ability pupils received more praise for their oral reading than high ability groups. In addition, high ability pupils were criticized more often.

Gumperz and Hernandez-Chavez (1972), McDermott (1977) and McGill-Franzen (1975) reported an interactional difference between teachers and different ability groups. For example, Gumperz and Hernandez-Chavez (1972) found that poor readers were immediately and more frequently interrupted after an oral reading error than good readers. Further, the type of interaction differed. The miscues of good readers were treated in context whereas those of poorer readers were treated in isolation.

Allington (1980) investigated whether teachers cued high

ability readers differently from low ability readers. It was found that teachers more frequently interrupt low ability readers immediately after oral reading errors than high ability readers who made similar errors, regardless of the semantic appropriateness of the error. Teachers also tended to provide low ability readers with information about graphemic or phonemic characteristics of the error word or to simply supply the error word, whereas high ability readers received more semantic or syntactic information after an error.

West and Anderson (1976) accounted for Allington's (1980) findings by suggesting that the students' reading behaviours may stimulate teachers' responses. For example, low achieving readers may make more grapho-phonemic errors resulting in the teacher supplying them with this information. Pflaum, Pascarella, Boswick and Auer (1980) investigated whether the students' reading behaviours and status were related to teachers' behaviours during reading instruction. Irrespective of the children's actual oral reading behaviour, teachers provided low ability readers (as compared to high ability readers) with more grapho-phonemic cues during reading errors, as well as significantly more suggestions to focus on these cues prior to oral reading.

#### Oral Reading Error Correction Procedures

Instruction during oral reading frequently occurs in the form of error correction (Jenkins, 1979). In all the studies on instructional procedures (e.g., Jenkins & Larson, 1979; Meyer, 1982; McNaughton & Glynn, 1981; J. Singh & N.N. Singh, 1985; Singh & Singh, 1984, 1985; Singh, Singh, & Winton, 1984; Singh, Winton & Singh, 1985; Wong & McNaughton, 1980) the different types of errors were combined into one

category. From an instructional viewpoint it is desirable to eliminate all errors regardless of their type (Singh, Singh & Winton, 1985). In this research an error was defined as any mismatch between the text being read and the subject's oral response to the word.

Word Supply. Jenkins and Larson (1979) evaluated the differential effectiveness of a number of error correction procedures. The procedures chosen were selected by the authors after observing teachers using them and also because they are assumed to be among those most commonly employed by remedial reading teachers. Word supply served as a control because it dominates reading instruction at all levels (Jenkins & Larson, 1979). Word supply simply involves the teacher supplying the correct word after an oral reading error. The other correction procedures included sentence repeat, end of page review, word meaning, and drill. Five 13-14 year old learning disabled students participated in the experiment, which consisted of five phases. Results indicated that each error correction procedure was superior to no correction and that drill surpassed all other procedures.

Drill. Drill involves the teacher making a list of all the error words which are presented to the subject at the end of the reading session. If the subject reads the words incorrectly the teacher supplies the correct words and the subject repeats them. The procedure is continued until every word has been read correctly. The entire list must be read correctly on two consecutive occasions.

The major methodological problem with this research was the group design. Only five subjects were sampled, no

information was presented on individual subjects as the data was grouped. Further a sequence effect may have possibly occurred. The apparent superiority of drill may have resulted from the greater exposure to the words since this was the only procedure which required a criterion to be reached.

Phonics. Phonics or word analysis involves the teacher focusing the subject's attention on the structure of the word and then helping the subject break the word down into syllables and then sounds.

A number of comparative studies have been conducted to investigate the relative effectiveness of word supply and phonics. Meyer (1982) examined the effects of phonics and word supply correction procedures on 58 learning disabled or educationally handicapped students. Results showed no significant difference in oral reading accuracy between students taught using phonics as compared to word supply. Rose, McEntire and Dowdy (1982) in a single subject design reported that with four of the five learning disabled subjects word supply was more effective than phonics. J. Singh and N.N. Singh's (1985) results were contrary to Rose et al (1982). In an alternating treatments design, a no training control condition was compared with word supply and phonics on the error rate of four mentally retarded subjects. Both error correction procedures were superior to the no training control, and phonics was more effective at reducing errors than word supply. In addition, two of the subjects showed a greater rate of self-correction with phonics than with word supply.

The different results of these studies may be explained

in part by the different subjects and the different materials. In the Singh and Singh (1985) study the phonic procedure involved a very specific sequence of interactions between the teacher and subject, whereas Rose et al (1982) used a much simpler procedure. Meyer (1982) did not use phonics during the oral reading session, it was only used to correct the errors for half of the subjects during the training sessions. The study was heavily biased in favour of word supply. It was further complicated by the incorporation of drill in both error correction procedures.

Delayed Error Correction. It is well established that responses are affected by consequential stimuli, either reinforcers or punishers, occurring with minimum delays (Singh, Winton & Singh, 1985). However, in a complex behaviour such as reading, providing immediate attention following an error, may interfere with other important responses.

McNaughton and Glynn (1981) compared the effects of immediate versus delayed teacher attention to oral reading errors. They proposed that delayed attention was likely to be more effective since immediate attention to errors restricts the reader from attending to syntactic and semantic cues following the error and does not allow the reader time to self-correct. Six average readers with a mean age of 6-8 years received delayed or immediate attention to errors when reading a familiar text in a reversal design. Delayed error correction was more effective at decreasing the number of errors and increasing the number of self-corrections. Similar methodology problems exist in this study as in Jenkins and Larson (1979). In addition, without any baseline

data it is not known whether the effect of attending to errors was greater than not attending to errors.

Singh, Singh and Winton (1985) compared delayed with immediate error correction and incorporated a no teacher-attention phase in an alternating treatments design. Four mentally retarded children served as subjects. All subjects showed greater increases in the number of errors on the delayed error correction phase. It was also shown that teacher attention to errors was effective in improving reading, as immediate attention was more effective than no teacher-attention. The alternating treatments design was useful in comparing the effects of the different procedures with individual subjects and did not create internal validity problems such as sequence or time-related artifacts or difficulties due to reversing treatment conditions.

Overcorrection. Overcorrection is a method that is educative in that variations provide opportunities for persons to learn the correct responses rather than merely to receive punishment for incorrect responses (Matson, Esveldt-Dawson & Kazdin, 1982). One aspect of the procedure involves practising overly correct forms of the relevant behaviour in those situations where the misbehaviour commonly occurs.

A number of studies have used overcorrection in the correction of spelling errors (Foxy & Jones, 1978; Ollendick, Matson, Esveldt-Dawson & Shapiro, 1980; Matson, Esveldt-Dawson & Kazdin, 1982). Subjects included normal students in the Foxy and Jones (1978) and Ollendick et al (1980) studies and mentally retarded subjects in the Matson et al (1982) study. Overcorrection plus reinforcement was

found to be more effective than overcorrection alone.

More recently a study by Singh, Singh and Winton (1984) evaluated the effectiveness of overcorrection on oral reading errors. The subjects were four mentally retarded girls from a special school. An alternating treatments design was used to evaluate the two training and a control procedure. The overcorrection procedure involved the teacher supplying the correct word after an error and the subject pointing to the word and saying it five times, then rereading the sentence in which the error occurred. During overcorrection plus reinforcement condition, the subject was given an edible reinforcer for self-correcting an error. In the final phase, the more effective of the two treatment procedures, overcorrection plus positive reinforcement, was implemented. Both overcorrection alone and with reinforcement decreased errors and increased the number of self-corrections, although the combined procedure was superior.

A comparison between drill and overcorrection procedures was made by Singh and Singh (1986b) in an alternating treatments design with four mentally retarded subjects. Both drill and overcorrection were more effective in reducing the number of errors than the no-training control condition but overcorrection was the most effective. Measures were also taken of the retention of the error words one day after the initial reading. Both procedures facilitated retention of error words but fewer errors were made on the passages that were corrected using overcorrection. Drill produced a smaller mean number of errors over the intervention and retention, indicating retention was better under the drill condition than overcorrection.

Previewing. Previewing is a technique which involves antecedent control of oral reading errors and self corrections. Previewing enables the student to put into a meaningful context the story to be read, increasing the probability of eliminating unlikely alternative words and narrowing the choice for selecting the correct word through prior contextual information on the story (Singh & Singh, 1984). The teacher discusses with the subject the title of the story, pictures which accompany the text, and introduces new and important words. Any questions the subject may have are also answered.

Wong and McNaughton (1980) in a single-case experiment using a reversal design compared a control procedure (no contextual information) with an experimental condition which provided contextual information. The latter resulted in increases in reading accuracy and self-corrections.

Singh and Singh (1984) improved on this study using an alternating treatments design which compared a no treatment control with two previewing conditions. One condition involved previewing the target text and the other previewing an unrelated text. This variable checked to see if time per se was not the crucial factor. Results showed previewing the appropriate text greatly reduced the number of oral reading errors and increased the number of self-corrections across each of four mentally retarded subjects.

#### Measuring Acceptability

One way of quantifying teachers' choices is through acceptability ratings. The work on acceptability began with the development of a measurement device, the Treatment Evaluation Inventory (Kazdin, 1980a). Prior to this, the evaluation of the efficacy of treatments had relied on

outcome measures of behaviour change. Acceptability is an important consideration when several treatments for a target behaviour have been proven to be equally effective. While the more acceptable treatment is more likely to be adhered to, it is also possible that the most effective treatment may not be the most acceptable. Glasgow and Rosen (1978) in the Gallup polls found that smokers were more willing to undertake self-administered programs that may prove to be less effective than therapist directed programs. A second reason to evaluate treatment acceptability pertains to ethical and legal issues that treatment procedures often raise (Kazdin, 1980a).

Kazdin (1980a) was particularly concerned with aversive techniques and drug treatments used on children with behaviour problems. He designed the Treatment Evaluation Inventory (T.E.I.) to measure overall acceptance of alternative treatments for deviant child behaviour, including reinforcement of incompatible behaviour, time out, drug therapy and electric shock. The T.E.I. has three main dimensions:

- (1) Is the treatment appropriate for a given population?
- (2) Is the treatment fair, reasonable or intrusive? and (3) Is the treatment consistent with conventional notions about what a treatment should be? (Kazdin, French & Sherick, 1981).

In the pilot study (Kazdin, 1980a) the original scale required subjects to rate 16 items in a Likert-format (1 to 7 point scale) and 15 bipolar adjectives from the Semantic Differential (Osgood, Suci & Tannenbaum, 1957). Through factor analysis, Kazdin (1980a) has shown that 15 of the 16 questions in the T.E.I. measure one factor, that is, acceptability. The 16th question, which had a small loading on the single factor, was dropped leaving 15 items in the T.E.I.

which has been used in subsequent research.

Kazdin (1980a, 1980b, 1981) and Kazdin et al (1981) in a series of experiments, used the T.E.I. to evaluate the acceptability of various treatments for reducing children's deviant behaviours with different target populations. The results showed that reinforcement of behaviours incompatible with inappropriate behaviours was evaluated as more acceptable than drug therapy (Kazdin, 1980a, 1981), electric shock (Kazdin, 1980a), overcorrection (Kazdin et al., 1981), or various forms of time out (Kazdin, 1980b).

All of this research was concerned with treatments typically used in institutions and clinics. It is therefore difficult to generalize the results to schools. It may be that a different set of variables may influence the acceptability of intervention in schools. Witt and Martens (1983) assessed the acceptability of different behavioural interventions in the classroom. Factors which may affect teachers' judgements of the acceptability of behavioural interventions were evaluated including: time involvement, behaviour problem severity and type of intervention. The study included 180 trainee teachers and used a classroom version of the T.E.I. called the Intervention Rating Profile (I.R.P.) to measure acceptability. Positive interventions requiring low amounts of teacher time and applied to mild behaviour problems was considered most acceptable overall. While a reductive intervention requiring high amounts of teacher time and applied to a mild behaviour problem was considered least acceptable. Witt, Martens and Elliott (1984) found similar results using experienced inservice teachers as subjects. Singh and Katz (1985) modified the ratings of acceptability of three

child behaviour therapy techniques (differential reinforcement of incompatible behaviour, overcorrection, and time out from reinforcement). They provided students with information on the treatment techniques, with a fourth treatment procedure (humanistic parenting) that was included as a control. It was found that acceptability ratings could be changed with the provision of educational material on each treatment alternative.

All previous research on acceptability has involved rating clinical treatments. This study is the first to evaluate the acceptability of different remedial procedures. The present study used Kazdin's (1980) methodology and the Treatment Evaluation Inventory to evaluate primary school teachers' ratings of acceptability of a number of oral reading error correction procedures. The six error correction procedures evaluated were: word supply, phonics, drill, overcorrection, previewing, and delayed error correction, all of which have been demonstrated to be effective and are currently used in schools with beginning and low progress readers.

## Method

### Participants

The participants were 120 primary school teachers from the Christchurch district. They ranged in age from 21 years to 59 years (Mean = 38 yrs), with the exception of nine subjects who failed to report their age. Of the sample, 85.0% were females, 7.5% were males and 7.5% failed to report their sex. Years of experience in teaching ranged from six months to 38.5 years, with the exception of four subjects who failed to report the number of years they had been teaching. From Figure 1 it can be seen that one third of the sample were in the 0 to 5 year teaching bracket. A further third were in the mid range, that is, 11 to 20 years teaching. There was a consistent decline in the number of teachers with more than 20 years teaching experience.

---

Insert Figure 1 about here

---

As shown in Table 1, 29% of the sample had additional qualifications in the teaching of reading, 64% had no qualifications and the remainder failed to report. The most popular qualifications were the early reading inservice course and the reading recovery course.

---

Insert Table 1 about here

---

All subjects taught junior school classes; that is, one or more of the following classes: New Entrants, J1, J2, J3, S1, and S2.

The sampled schools were randomly chosen from a list of

Figure Caption

Figure 1. The distribution of participants' years of teaching experience.

DISTRIBUTION OF PARTICIPANTS' YEARS OF TEACHING

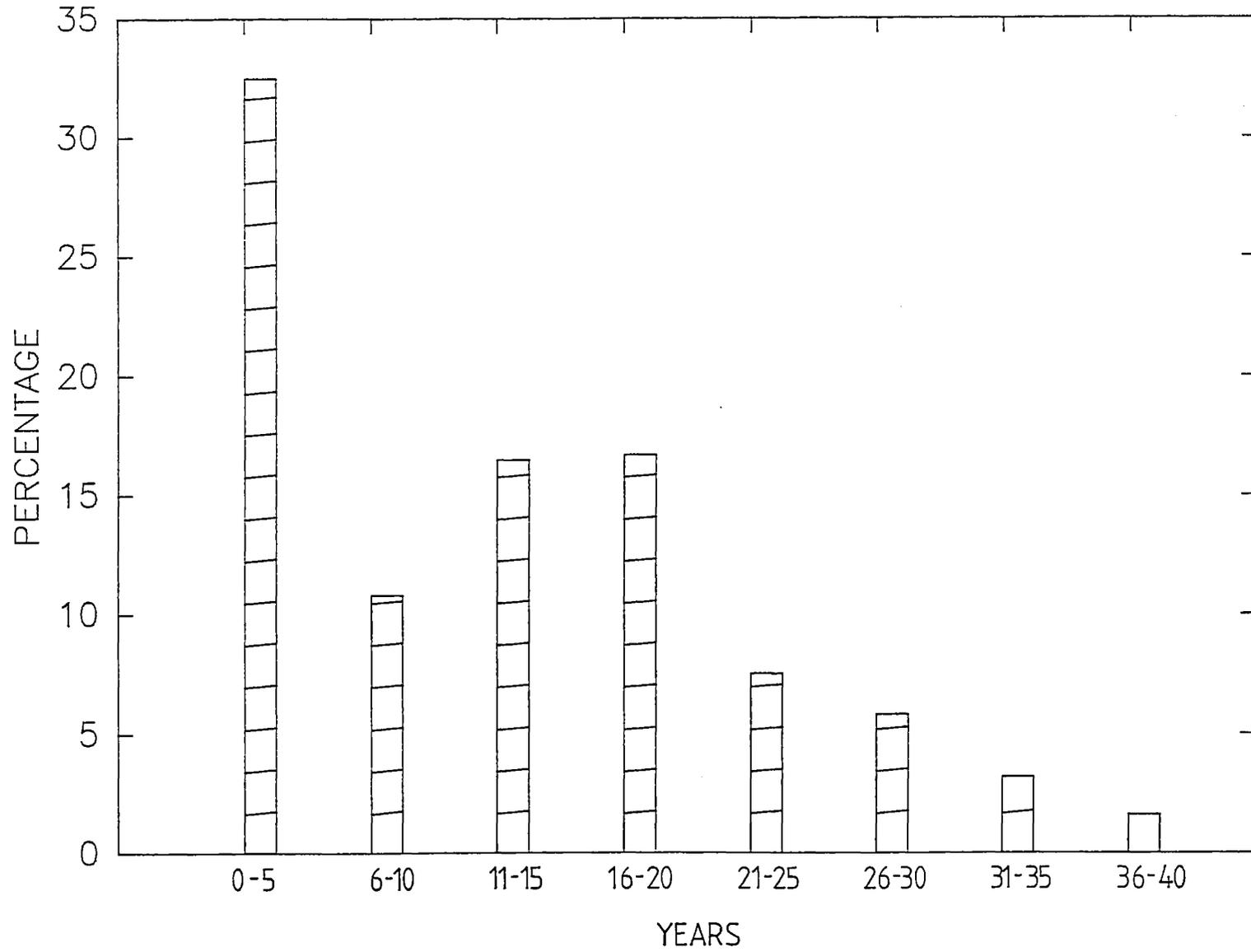


Table 1

## Additional Qualifications in Teaching Reading

Qualification	Frequency
Reading recovery course	7
Early reading inservice course	7
Teachers reference courses	6
Diploma teaching reading	6
Advanced studies for teachers unit	5
Later reading inservice course	3
Masters of Education	3
Bachelors of Education	3
Bachelors of Science	1
One year course education of handicapped	1
Speech therapist	1

all Christchurch schools. Initial contact was made with the Principal or Senior Teacher of Junior Classes asking for permission to sample teachers at the school. Of the 26 schools contacted only one refused permission, explaining that they were already too busy with other studies being conducted at the school.

Teachers were under no obligation to participate and only those teachers willing to complete the questionnaire were sampled. 152 subjects were sampled. Of this total 15 incorrectly answered the questionnaire, five questionnaires were misplaced, five were not returned and eight subjects at one school, who had initially agreed, refused to take part. Thus, the response rate was 79%.

#### Dependent Variable

The Treatment Evaluation Inventory (T.E.I.) was the dependent variable, measuring the acceptability of six different procedures for correcting oral reading errors. The T.E.I. consists of 15 questions. A copy is presented in Appendix 1. Minor modifications were made to the wording of some of the T.E.I. questions to make them applicable to the evaluation of oral reading procedures.

Subjects were required to respond to the questions on a Likert scale, using a 1 to 7-point scale with 1 being equal to 'not at all' and 7 being equal to 'very much'. Subjects answered each question by placing a checkmark on the line under the question that best indicated how she or he felt about the procedure. The total score was calculated by adding together each score for the 15 questions. This total score represents how acceptable the subject rated the procedure. Thus, a score was derived for each of the six

procedures, with higher scores signifying greater acceptability.

### Design

A latin square factorial design was used. The factors making up the 6x6 latin square were order, position, evaluation (the latter two repeated measure factors). As well, crossed with the latin square factors were the remaining two factors of case sex and treatment.

Participants were assigned randomly, in equal numbers, to one of the 24 different conditions. For example, five participants received a questionnaire with a female case description and with the following sequence of procedures: word supply, phonics, overcorrection, previewing, drill, and delayed error correction. Another five participants received a questionnaire with a male case description and with the following sequence of procedures: phonics, word supply, delayed error correction, drill, previewing, and overcorrection.

### Procedure

The questionnaires were delivered personally by the experimenter to the schools. This contact was organized to coincide with the weekly staff meeting at most schools.

Teachers who volunteered to participate in the study were assured of strict anonymity. Each subject received a questionnaire which included a case description, six different procedures, six Treatment Evaluation Inventories and one page of general questions. A brief explanation of the purposes of the questionnaire was given. That is, to evaluate the acceptability of different procedures for correcting oral reading errors. In addition, it was emphasized that there

were no right or wrong answers.

The teachers read through the instructions presented on the front page of the questionnaire. They were requested to read the case description and the first procedure, answer the first set of T.E.I. questions, and repeat these steps for each of the remaining procedures. Finally, they were required to answer the general questions on the last page. Subjects were also instructed neither to look ahead nor back to previous responses. The time required to complete the questionnaire was approximately 20 minutes. However, the questionnaire was usually left with the subjects for several days before being collected.

The six procedures evaluated were: word supply, phonics, overcorrection, previewing, drill, and delayed error correction. These procedures were evaluated after reading a hypothetical case description.

Case Description. The case description was based on the characteristics of a subject in the Wong and McNaughton (1980) study. Each questionnaire included an identical case description with the exception of the gender of the case. The male case was known as Michael and the female case as Gina. Gina was a 7 years 5 month old girl, in a second year classroom (J.2) and was reading texts at the instructional level approximately equivalent to a normal progress child after one year of instruction. She was receiving individual remedial reading sessions twice weekly. She had a stanine score of 5 on Clay's (1979) Ready to Read word test. Since Gina began school she had not enjoyed reading. Typical oral reading errors included mispronounced words, omissions, reversals, and insertions. Sometimes she made

no response at all and just stared at the page waiting for help.

A variety of different types of errors were included to ensure that the procedures were not evaluated on the basis of one type of error.

The six procedures were presented in different orders to satisfy the requirements of the 6x6 latin square design. Each procedure was taken from the literature on the correction of oral reading errors. The description of each procedure was written so as to apply to the case description.

Word Supply. Word supply involves the teacher supplying or telling Gina the correct word immediately following an oral reading error; that is, before the next word following the error is read. If she pauses after making an error she is corrected within 5 seconds of the last word read. Gina is then required to repeat the word (McNaughton & Glynn, 1981; Meyer, 1982; J. Singh and N.N. Singh, 1985).

Overcorrection. In using overcorrection, when an oral reading error is made the teacher points to the error word and supplies the correct word. Gina is required to point to the word and repeat the word five times correctly. The sentence in which the word occurred is then reread by Gina (Singh & Singh, 1986b; Singh, Winton & Singh, 1984).

Phonics. Phonics involves the teacher identifying regular words and directing Gina's attention to the various phonetic elements of the error word. The words are broken down by the teacher into their letter constituents or syllables, the sounds are synthesized to pronounce the word.

Gina repeats each sound after the teacher (Meyer, 1982; J. Singh & N.N. Singh, 1985).

Previewing. This procedure involves a discussion between the teacher and Gina before she is required to orally read the story. The discussion begins with the title of the story. Words not understood are explained. The teacher presents a brief outline of the story using pictures accompanying the text. New words in the text may be discussed by the teacher but not visually identified. Any questions Gina has are answered by the teacher. The teacher also questions her as to the meaning of a number of important words. If she answers incorrectly the correct answer is given (Wong & McNaughton, 1980; Singh & Singh, 1984).

Drill. Drill involves the teacher supplying the correct word after each oral reading error. Each error made during the reading of the text is recorded. The teacher then prints all the error words on index cards. These cards are then presented individually to Gina. If read correctly the card is removed. For each incorrect word the teacher supplies the word and asks "what word is this?" and Gina repeats the word. This card is then placed at the bottom of the deck. The procedure is continued until every word has been read correctly. All cards are then shuffled and the presentation procedure is repeated. The entire deck must be read correctly on two consecutive occasions (Jenkins & Larson, 1979; Singh & Singh, 1986b).

Delayed Error Correction. Delayed error correction involves the teacher delaying attention to the oral reading error until Gina has finished the sentence in which

the error occurred. The correct word is then supplied. If she pauses after making an error, the teacher delays attention for 10 to 15 seconds before supplying the correct word (McNaughton & Glynn, 1981; Singh, Winton & Singh, 1985).

### Results

The participants' ratings of acceptability of the six error correction procedures were analysed using a repeated latin square analysis of variance, which controlled for both testing position (i.e., the position in which the procedures appeared) and order (i.e., the sequence in which procedures were presented).

The mean acceptability ratings on the T.E.I. for each oral reading error correction procedure are presented in Figure 2. Previewing ( $\underline{M} = 90.51$ ) was rated as the most acceptable error correction procedure. Delay ( $\underline{M} = 63.70$ ) was the next most acceptable procedure followed by phonics ( $\underline{M} = 54.61$ ), word supply ( $\underline{M} = 47.95$ ), drill ( $\underline{M} = 39.59$ ) and overcorrection ( $\underline{M} = 33.08$ ).

---

Insert Figure 2 about here

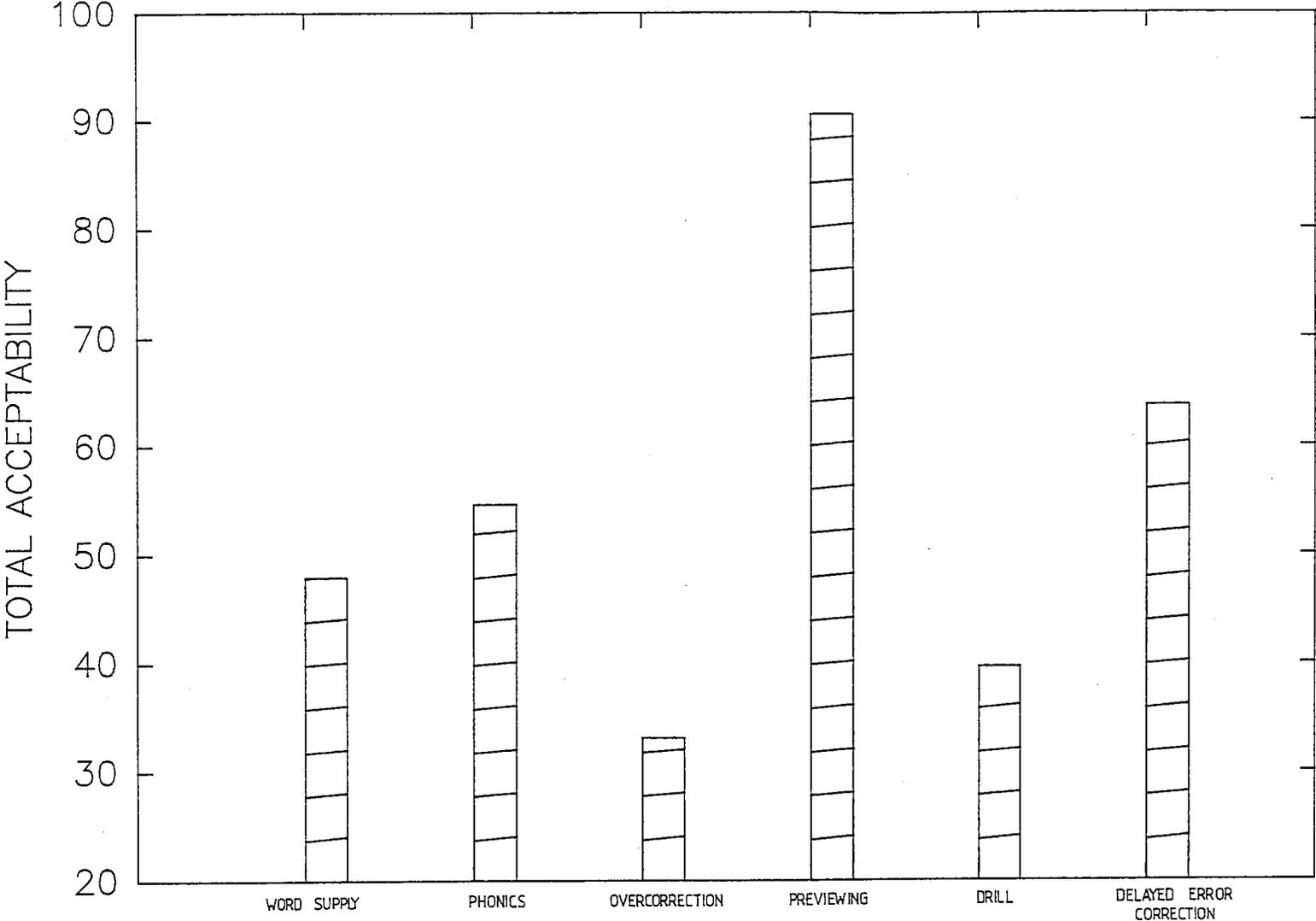
---

Analysis of variance (see Table 2) produced a significant main effect for total acceptability scores on the T.E.I. ( $\underline{F}(5,480) = 135.56p<.01$ ). The effect of the position in which the procedures were presented was also statistically significant ( $\underline{F}(5,480) = 4.51p<.01$ ). There was a significant sex of case x treatment interaction ( $\underline{F}(1,96) = 9.77p<.01$ ) which was not predicted and must be

Figure Caption

Figure 2. Mean acceptability ratings for each procedure on the T.E.I. (Treatment Evaluation Inventory).

# MEAN ACCEPTABILITY RATINGS FOR T.E.I



attributed to either other differences between the sex case x treatment groups that were not controlled for, or Type 1 error. Further analyses were conducted to look for groups differences in teachers' sex, qualifications and number of years teaching. However, no significant differences were obtained which could account for the sex of case x treatment interaction. Therefore we must attribute the effect to Type 1 error. The sex of case x treatment variance was extracted from the ANOVA and could not affect other results. All other main effects and interaction effects that were tested were non-significant.

---

Insert Table 2 about here

---

Separate latin square analyses of variance were conducted for subjects receiving the male or female case description. This was necessary as mean comparisons, including all subjects, exceeded the memory allocation for the S.A.S. program used. Student Newman Keuls tests were carried out for each main effect (evaluation, order, position). The results of the Students Newman Keuls tests for evaluation are presented in Tables 3 and 4. Results from subjects who received the male case (Table 3) indicated that previewing ( $\bar{M} = 90.86$ ) was rated as significantly more acceptable than any other procedure on the T.E.I. This was followed in order of preference by delay ( $\bar{M} = 62.51$ ) and phonics ( $\bar{M} = 59.41$ ) which were not statistically significantly different from each other. Both were statistically significantly more acceptable than word supply ( $\bar{M} = 49.68$ ), drill ( $\bar{M} = 42.16$ ) and the least acceptable procedure was overcorrection ( $\bar{M} = 34.05$ ). All

Table 2

## Analysis of Variance Summary Table

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F Ratio
Sex Case	1708.16	1	1708.16	1.88
Order	4199.05	5	839.81	0.92
Treatment	566.51	1	556.51	0.61
Sex Case x Order	4406.69	5	881.33	0.97
Sex Case x Treatment	8897.16	1	8897.16	9.77 <sup>++</sup>
Order x Treatment	3141.84	5	628.36	0.69
Sex Case x Order x Treatment	6065.05	5	1213.01	1.33
Error	87451.13	96	910.94	
Position	8409.45	5	1618.89	4.51 <sup>++</sup>
Evaluation	252561.74	5	50512.34	135.56 <sup>++</sup>
Position x Sex Case	1582.19	5	316.43	0.85
Evaluation x Sex Case	2507.70	5	501.54	1.35
Position x Treatment	633.77	5	126.75	0.34
Position x Sex Case x Treatment	1251.55	5	250.31	0.67
Evaluation x Sex Case x Treatment	1504.70	5	300.94	0.81
Error	178863.66	480	372.63	
L.S. Residual	27375.40	80	342.19	

<sup>++</sup>p < .01

were statistically significantly different from each other. Subjects who received the female case (Table 4) showed the same pattern of results as for those who received the male case. Previewing ( $\underline{M} = 90.16$ ) was statistically significantly more acceptable than any other procedure on the T.E.I. Delay ( $\underline{M} = 64.88$ ) was the next most acceptable alternative and was followed by phonics ( $\underline{M} = 49.81$ ) and word supply ( $\underline{M} = 46.21$ ), which were not different from each other but were statistically significantly more acceptable than drill ( $\underline{M} = 37.01$ ) and overcorrection ( $\underline{M} = 32.11$ ) which were not statistically different from each other.

---

Insert Tables 3 and 4 about here

---

Student Newman Keuls tests for order revealed for those who received the male case (see Table 6) that there was a statistically significant effect at .05 level for order six ( $\underline{M} = 64.98$ ) which was: phonics, overcorrection, previewing, drill, delayed error correction, word supply. It was rated higher than the other orders.

There were no significant differences between the means for participants who received the female case (see Table 6).

---

Insert Tables 5 and 6 about here

---

Student Newman Keuls tests for position (see Table 7) revealed that the first ( $\underline{M} = 44.56$ ) procedure that was evaluated was rated statistically significantly lower at

Table 3

Student Newman Keuls test for Evaluation for Male Cases<sup>a</sup>

Dependent Measure	Procedures					
T.E.I.						
Acceptability	P	<u>DEC</u>	<u>Ph</u>	WS	D	OC
Total score	90.86	62.51	59.41	49.68	42.16	34.05
P = previewing                      DEC = delayed error correction      Ph = phonics WS = word supply                      D = drill                      OC = overcorrection						

<sup>a</sup>Any two means underlined by the same line are not significantly different whereas any two means not underlined by the same line are significantly different. All differences are at the  $p < .05$  level.

Table 4

Student Newman Keuls test for Evaluation for Female Cases<sup>a</sup>

Dependent Measure	Procedures					
T.E.I.						
Acceptability	P	DEC	<u>Ph</u>	<u>WS</u>	D	OC
Total score	90.16	64.88	49.81	46.21	37.01	32.11

P = previewing                      DEC = delayed error correction    Ph = phonics  
 WS = word supply                    D = drill                    OC = overcorrection

<sup>a</sup>Any two means underlined by the same line are not significantly different whereas any two means not underlined by the same line are significantly different. All differences are at the  $p < .05$  level.

Table 5

Student Newman Keuls test for Order for Male Cases<sup>a</sup>

Dependent Measure	Order					
	1	2	3	4	5	6
T.E.I.						
Acceptability	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	6
Total	54.68	53.13	57.50	54.76	53.61	64.98

1 = word supply, phonics, overcorrection, previewing, drill  
delayed error correction.

2 = delayed error correction, word supply, phonics, over-  
correction, previewing, drill

3 = drill, delayed error correction, word supply, phonics,  
overcorrection, previewing

4 = previewing, drill, delayed error correction, word supply,  
phonics, overcorrection

5 = overcorrection, previewing, drill, delayed error  
correction, word supply, phonics

6 = phonics, overcorrection, previewing, drill, delayed  
error correction, word supply.

<sup>a</sup>Any two means underlined by the same line are not statistically significantly different whereas any two means not underlined by the same line are significantly different. All differences are at  $p < .05$  level.

Table 6

Student Newman Keuls test for Order for Female Cases<sup>a</sup>

Dependent Measure	Order					
	1	2	3	4	5	6
T.E.I.						
Acceptability	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
Total	52.41	49.58	53.81	52.63	58.70	53.06

1 = word supply, phonics, overcorrection, previewing, drill,  
delayed error correction

2 = delayed error correction, word supply, phonics, over-  
correction, previewing, drill

3 = drill, delayed error correction, word supply, phonics,  
overcorrection, previewing

4 = previewing, drill, delayed error correction, word supply,  
phonics, overcorrection

5 = overcorrection, previewing, drill, delayed error  
correction, word supply, phonics

6 = phonics, overcorrection, previewing, drill, delayed error  
correction, word supply

<sup>a</sup>Any two means underlined by the same line are not statistically significantly different whereas any two means not underlined by the same line are significantly different. All differences are at  $p < .05$  level.

.05 level than procedures in third ( $\underline{M} = 54.20$ ) to sixth ( $\underline{M} = 57.91$ ) testing positions in the case of females. It is apparent that the mean scores progressively increased from the lowest mean score of the first procedure evaluated to the highest mean score of the last procedure evaluated. For the male cases (see Table 8) there were no significant comparisons between different positions.

---

Insert Tables 7 and 8 about here

---

To estimate the magnitude of the strength of the relationship between treatments and acceptability ratings  $\omega^2$  (omega squared) was used (Kirk, 1968). Results from participants who received the female case showed that 44% of the variance in acceptability ratings was accounted for. For those who received the male case, 40% of the variance in acceptability ratings was accounted for.

Separate analyses of variance were completed to examine whether the teachers' sex, the presence of additional qualifications, or the number of years teaching affected the ratings of the different procedures. A significant interaction was obtained for qualifications x evaluation ( $\underline{F} (5,550) = 2.34 \underline{p} < .05$ ), plus a significant main effect for qualifications ( $\underline{F}(1,110) = 4.25 \underline{p} < .05$ ).

---

Insert Table 9 about here

---

Figure 3 shows that with the exception of previewing all other procedures were rated higher by participants

Table 7

Student Newman Keuls test for Position for Male Cases<sup>a</sup>

Dependent Measure	Position					
	1	2	3	4	5	6
T.E.I.						
Acceptability	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
Total	52.06	55.65	54.96	59.91	59.31	56.78

1 = first testing position

2 = second testing position

3 = third testing position

4 = fourth testing position

5 = fifth testing position

6 = sixth testing position

<sup>a</sup>Any two means underlined by the same line are not statistically significantly different whereas any two means not underlined by the same line are significantly different. All differences are at  $p < .05$  level.

Table 8

Student Newman Keuls test for Position for Female Cases<sup>a</sup>

Dependent Measure	Position					
	1	2	3	4	5	6
T.E.I.						
Acceptability	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
Total	44.56	51.30	54.20	54.40	57.83	57.91

1 = first testing position

2 = second testing position

3 = third testing position

4 = fourth testing position

5 = fifth testing position

6 = sixth testing position

<sup>a</sup>Any two means underlined by the same line are not statistically significantly different whereas any two means not underlined by the same line are significantly different. All differences are at  $p < .05$  level.

Table 9

## Subsidiary Analysis of Variance Summary Table

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F Ratio
Teacher Sex				
Within cells	102526.98	109	940.61	
Constant	2026768.16	1	2026768.16	2154.72
Tsex	3177.51	1	3177.51	3.37
Evaluation				
Within cells	199516.46	545	366.08	
Evaluation	235526.10	5	47105.22	128.67
Tsex x Evaluation	1932.76	5	386.55	1.05
Qualifications				
Within cells	102446.62	110	931.33	
Constant	2051543.00	1	2051543.00	2202.80
Qualifications	4215.37	1	4215.37	4.52 <sup>+</sup>
Qualifications x Evaluation				
Within cells	201153.56	550	365.73	
Evaluation	241740.79	5	48348.15	132.19
Qualifications x Evaluation	4282.63	5	856.52	2.34 <sup>+</sup>
Years Teaching				
Within cells	114879.55	118	973.55	
Constant	2170855.86	1	2170885.86	2229.82
Years teaching	1546.07	1	1546.07	1.58
Years teaching x Evaluation				
Within cells	218212.38	590	369.85	
Evaluation	252561.74	5	50512.34	136.57
Years teaching x Evaluation	5375.37	5	1075.07	2.90 <sup>++</sup>

<sup>+</sup>p<.05<sup>++</sup>p<.01

with no additional qualifications in teaching reading.

---

Insert Figure 3 about here

---

Univariate F tests revealed that teachers with no additional qualifications ( $\bar{M} = 58.96$ ) rated phonics as a statistically ( $F(1,110) = 5.73 p < .05$ ) more acceptable procedure than those with additional qualifications ( $\bar{M} = 46.91$ ). Drill was also rated as statistically significantly ( $F(1,110) = 4.58 p < .05$ ) more acceptable procedure by teachers with no additional qualifications ( $\bar{M} = 42.68$ ) compared with teachers with additional qualifications ( $\bar{M} = 33.62$ ).

---

Insert Table 10 about here

---

The number of years of teaching x evaluation interaction was also found to be statistically significant ( $F(5,590) = 2.90 p < .01$ ) [see Table 9]. Participants with 13 or more years teaching experience rated word supply, previewing, drill, and delayed error correction higher than those with 12 or less years of teaching experience (see Figure 4). Overcorrection was rated equally low by both groups with only phonics being rated higher by those with less teaching experience.

---

Insert Figure 4 about here

---

Univariate F tests revealed a statistically significant effect for the number of years teaching with previewing ( $F(1,118) = 4.48 p < .05$ ), ( $x < 12$  yrs,  $\bar{M} = 87.76$  versus  $x \geq 13$  yrs,  $\bar{M} = 93.56$ ) and delayed error correction ( $F(1,118) = 6.20 p < .05$ ), ( $x < 12$  yrs,  $\bar{M} = 58.46$  versus  $x \geq 13$  yrs,

## Figure Caption

Figure 3. A comparison of mean ratings for each procedure between participants with additional qualifications in teaching reading and participants with no additional qualifications.

# QUALIFICATIONS BY EVALUATION

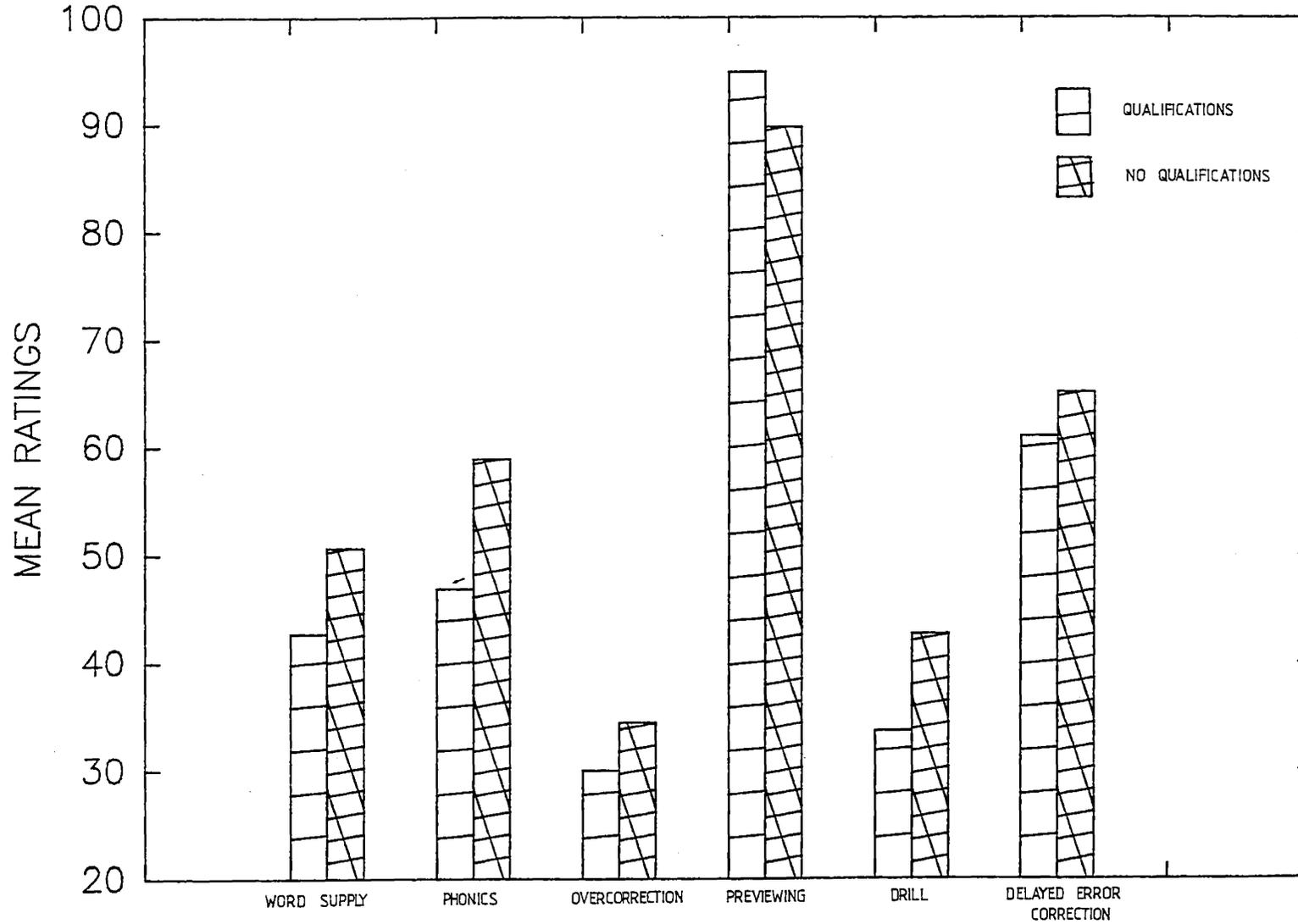


Table 10

Breakdown of treatments by qualifications

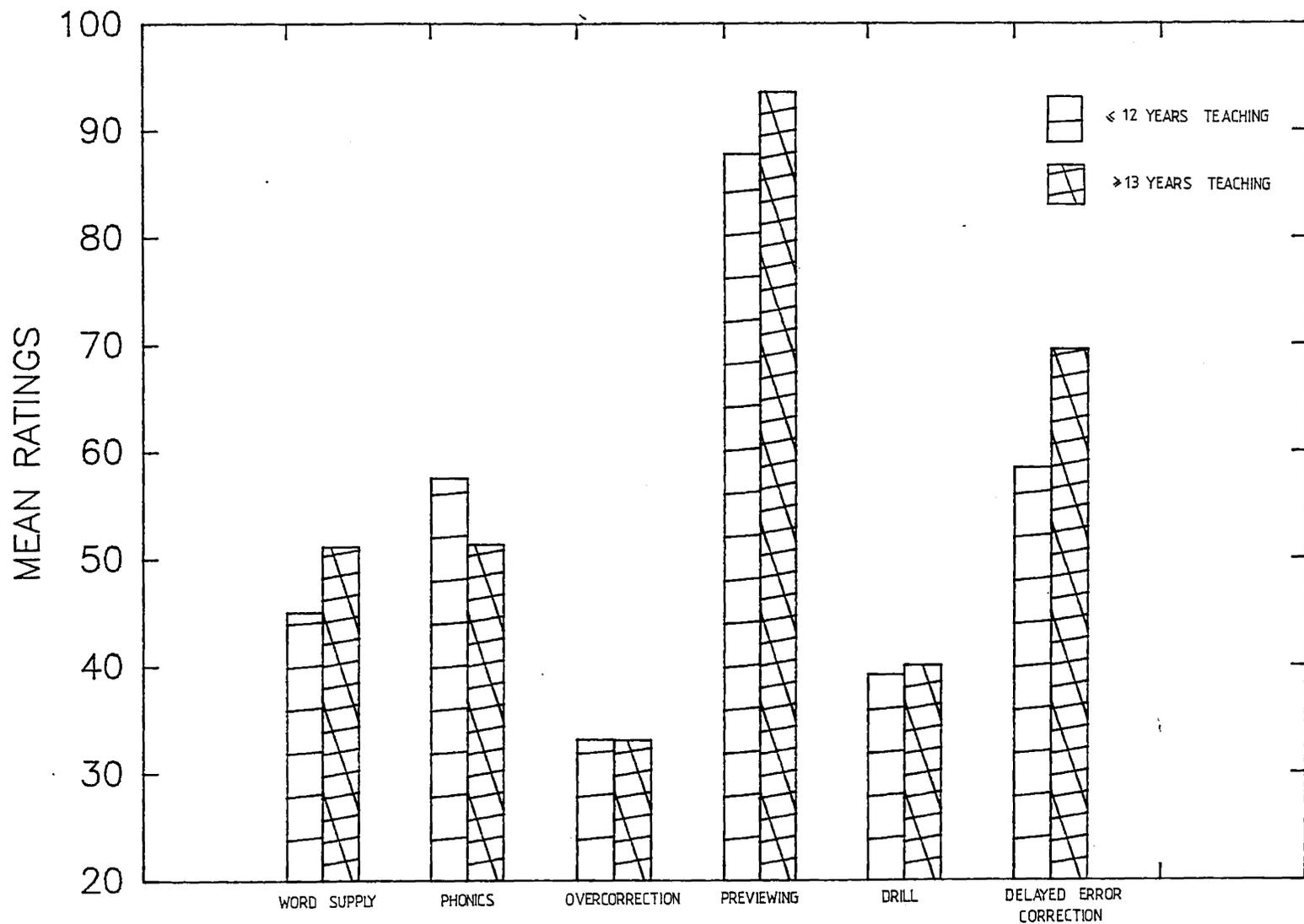
ANOVA					
	Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	$\frac{F}{\text{Ratio}}$
Treatments					
word supply					
	between groups	1531.013	1	1531.013	2.406
	within groups	70000.764	110	636.371	
phonics					
	between groups	3492.053	1	3492.053	5.725 <sup>+</sup>
	within groups	67093.626	110	609.942	
overcorrection					
	between groups	471.366	1	471.366	1.627
	within groups	31874.062	110	289.764	
previewing					
	between groups	634.501	1	634.501	3.214
	within groups	21715.990	110	197.418	
drill					
	between groups	1975.023	1	1975.023	4.581 <sup>+</sup>
	within groups	47424.691	110	431.134	
delayed error correction					
	between groups	394.053	1	394.053	0.662
	within groups	65491.055	110	595.373	

<sup>+</sup>p<.05

## Figure Caption

Figure 4. A comparison of mean ratings for each procedure between participants with  $\leq$  12 years teaching and participants with  $\geq$  13 years teaching.

# YEARS TEACHING BY EVALUATION



$\underline{M} = 69.49$ ).

---

Insert Table 11 about here

---

Although there was no significant sex of the teacher x evaluation interaction (see Table 9), univariate F tests revealed a statistically significant sex of the teacher difference for phonics ( $\underline{F}(1,109) = 4.08 \underline{p} < .05$ ). Male teachers rated phonics as a more acceptable procedure ( $\underline{M} = 70.44$ ) than female teachers ( $\underline{M} = 53.24$ ).

---

Insert Table 12 about here

---

Similarly there was no significant sex of the case description x evaluation interaction (see Table 2) yet univariate F tests revealed a significant sex case difference for phonics ( $\underline{F}(1,118) = 4.60 \underline{p} < .05$ ). Those teachers who received the female case rated phonics as a more acceptable procedure ( $\underline{M} = 59.41$ ) than teachers who received the male case ( $\underline{M} = 49.81$ ).

---

Insert Table 13 about here

---

### Current Practice

Seventy-five teachers reported previewing as currently the most frequently used oral reading error correction procedure in the classroom. This was followed by phonics, delayed error correction, other, word supply, overcorrection and finally only 11 teachers reported using drill. Procedures reported under the category marked 'other' included: reading for meaning; reading on; context clues; miscue analysis;

Table 11

Breakdown of treatments by years of teaching

## ANOVA

	Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F Ratio
Treatments					
Word supply					
	between groups	1117.264	1	1117.264	1.801
	within groups	73182.436	118	620.190	
phonics					
	between groups	1133.207	1	1133.207	1.843
	within groups	73182.160	118	614.840	
overcorrection					
	between groups	0.102	1	0.102	0.0
	within groups	35653.064	118	302.145	
previewing					
	between groups	1006.503	1	1006.503	4.489 <sup>+</sup>
	within groups	26457.464	118	224.216	
drill					
	between groups	23.070	1	23.070	0.049
	within groups	55979.921	118	474.406	
delayed error correction					
	between groups	3641.304	1	3641.304	6.203 <sup>+</sup>
	within groups	69267.896	118	587.016	

<sup>+</sup>p<.05

Table 12

Breakdown of treatments by sex of the teacher

## ANOVA

	Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F Ratio
Treatments					
word supply					
	between groups	850.440	1	850.434	1.368
	within groups	67743.801	109	621.503	
phonics					
	between groups	2446.491	1	2446.491	4.084 <sup>+</sup>
	within groups	65289.095	109	598.983	
overcorrection					
	between groups	2.149	1	2.149	0.007
	within groups	34201.490	109	313.775	
previewing					
	between groups	2.583	1	2.583	0.013
	within groups	22269.814	109	204.310	
drill					
	between groups	608.605	1	608.605	1.372
	within groups	48362.873	109	443.696	
delayed error correction					
	between groups	1200.017	1	1200.017	2.038
	within groups	64176.379	109	588.774	

<sup>+</sup> p < .05

Table 13

Breakdown of treatments by sex of the case description

## ANOVA

	Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F Ratio
Treatments					
word supply					
	between groups	360.533	1	360.533	0.575
	within groups	73939.167	118	626.603	
phonics					
	between groups	2764.800	1	2764.800	4.600 <sup>+</sup>
	within groups	70919.567	118	601.013	
overcorrection					
	between groups	112.133	1	112.133	0.372
	within groups	35541.033	118	301.195	
previewing					
	between groups	14.700	1	14.700	0.063
	within groups	27449.267	118	232.621	
drill					
	between groups	795.675	1	795.675	1.701
	within groups	55207.317	118	467.859	
delayed error correction					
	between groups	168.033	1	168.033	0.273
	within groups	72741.167	118	616.451	

<sup>+</sup>p < .05

and no corrections. Of all the participants 34 ticked only one procedure and were not required to answer the following two questions. The remaining participants reported using a combination of procedures.

---

Insert Table 14 about here

---

The rank order of preference for these procedures resulted in previewing being ranked as the most preferred followed by 'other', delayed error correction, phonics and word supply. Twice as many participants stated that they used different procedures for different children as opposed to using the same combination of procedures for all children.

A variety of responses were made to the final question which was concerned with the merits of the most frequently used error correction procedure. The key words used to describe the merits of the procedures included: increases confidence; maintains fluency; greater success; and creates understanding. However, there was no clear pattern of merit that pertained to a particular procedure: that is, whether the procedure being described was previewing or 'other', the merits of each were the same.

#### Discussion

In all previous research on acceptability ratings (Kazdin, 1980a, 1980b; Kazdin et al., 1981; Norton et al., 1983; Singh & Katz, 1985; Witt et al., 1984), it was found that participants could readily distinguish between the acceptability of different treatments. In this study it was also found that participants differentially rated the

Table 14

The frequency of error correction procedures used by teachers in the classroom

---

Error Correction Procedures	Frequency (number of teachers)
previewing	75
phonics	63
delayed error correction	51
other (eg reading for meaning)	48
word supply	29
overcorrection	14
drill	11

---

acceptability of each oral reading error correction procedure. Previewing was rated as the most acceptable procedure followed by delayed error correction, phonics, word supply, drill and finally, overcorrection.

Kazdin's (1980a, 1980b) research reported that there was no statistically significant order effect nor was there a statistically significant position effect. However, in this research there was a statistically significant position effect (see Table 2) which was further evaluated using Student Newman Keuls tests. Statistically significant comparisons between different positions were found only for participants who received the female case description. Procedures evaluated third, fourth, fifth and sixth were rated statistically significantly higher than the first procedure evaluated. Since no statistically significant differences were found for male cases it is difficult to explain why this has occurred. A statistically significant position effect could have resulted from the effects of practice or from differential carry over effects. Although no overall statistically significant order effect was found, the Student Newman Keuls tests for order did show a significant effect for order six, but only for participants who received the male case description. It is difficult to interpret this result in view of the lack of a significant main effect.

Participants rated the different procedures as applied to one of two case descriptions (Gina and Michael) which differed only in gender type. The sex of the case description was not a statistically significant factor in the ratings of acceptability, nor was the interaction between sex case and

evaluation. However, univariate F tests revealed a statistically significant sex case difference for phonics. There was a statistically significant sex x procedure interaction. This result must be attributed to Type 1 error as further analysis to distinguish if there were group differences in the sex of the teacher, qualifications or the number of years teaching experience did not yield any statistically significant differences. Univariate F tests revealed a statistically significant difference of teachers sex for phonics. This result must be interpreted with caution, because the sex of the teacher was not significant in affecting the ratings of acceptability and because of the small sample of male teachers.

The presence of additional qualifications in teaching reading was found to affect the ratings of acceptability of the different procedures. Participants with additional qualifications rated procedures less acceptable than participants with no qualifications, with the exception of previewing which was rated as more acceptable by participants with additional qualifications. Phonics and drill were rated significantly lower by participants with additional qualifications in teaching reading. A possible explanation of these results may be the courses that participants had attended may have placed emphasis on silent reading and on reading for meaning. Therefore the importance of oral reading error correction would be down played. As previewing involves looking at the context of the story, this would be the most acceptable procedure.

The number of years the teachers had taught was also found to affect the ratings of acceptability of the different procedures. Previewing and delayed error correction were

rated statistically significantly more acceptable by teachers with greater than 13 years teaching experience. Word supply and drill were also rated as more acceptable by these teachers but this was not statistically significant. Overcorrection was rated equally acceptable by both groups with only phonics being rated as more acceptable by participants with less than 12 years teaching experience.

Previewing clearly appears to be the most acceptable and frequently used procedure in correcting oral reading errors. The efficacy of previewing in increasing reading proficiency has been demonstrated in its reduction of the number of oral reading errors and the increased number of self corrections in a low progress reader (Wong & McNaughton, 1980), and in learning disabled students (Rose & Sherry, 1984), and in mentally retarded children (Rose, 1984; Singh & Singh, 1984). Singh and Singh (1984) demonstrated the educational significance of their data by comparing results with Clay's (1979) normative error rate data (no normative data exists for the mentally retarded). Before the previewing condition, subjects ranged from the low-middle category (i.e., they made 1 error in every 8 words) to the high to middle category (i.e., 1 in 15). After previewing, they had progressed to the high progress reader category of 1 error in 100 words.

In comparison with the other error correction procedures, previewing is the only procedure which involves antecedent control of errors.

Advantages of previewing include the minimal training required to conduct previewing. It is therefore feasible to train a peer, parent or teacher aide to preview the story with the subject. It does not require a lot of teacher time and

is easily incorporated into a classroom and may be used in a group situation.

No studies comparing the efficacy of previewing with other error correction procedures have been made. Previewing is an effective procedure but whether it is more or less effective than the other error correction procedures is not known. Because of the lack of comparative research between the error correction procedures it is difficult to make comparisons with previous research, which suggested that the most effective treatments may not be the most acceptable (Glasgow & Rosen, 1978).

The efficacy of the procedures does not appear to be linked to their acceptability ratings. Overcorrection has been proven to be effective in reducing oral reading errors and in increasing self-corrections (Singh, Singh & Winton, 1984) yet it was rated as the least acceptable of all the procedures. Research comparing drill and overcorrection report overcorrection as the more effective procedure (Singh & Singh, 1986b). This result supports the claim that the more effective procedures may not be the more acceptable. Why overcorrection is found to be less acceptable may be explained in that overcorrection is a relatively new procedure and many teachers may not know of its application to academic behaviour, particularly to reading.

The general questions gave participants freedom to express their opinions about the different error correction procedures. The questions in the T.E.I. were all closed format; therefore, the participants were limited in their responses. The T.E.I. did not give participants the opportunity of stating what they actually used in the classroom.

The most important finding from the general questions was that previewing was rated as the most frequently used procedure. This demonstrates a close relationship between the acceptability of a procedure and the frequency with which it is used. In the 'other' category participants were able to outline the procedures they used to correct oral reading errors. However, the procedures stated under this category were not very explicit; for example, reading for meaning. This would be better described as a philosophy of teaching reading rather than an oral reading error correction procedure. Seventy-five percent of the participants used a combination of procedures with the majority using different procedures for different children.

General reaction to the questionnaire was good. There was an excellent response rate with nearly 80% of participants returning the questionnaire. Several factors may have been responsible for such a high return rate. Participants were personally approached by the experimenter, the questionnaires were left with the participant to be answered in their own time, and they were anonymous.

The questionnaires, which were incorrectly answered, may have resulted from the layout of the T.E.I. questions. The 15 questions were spread out over four pages. In a considerable number of cases one page had not been answered. It is assumed participants accidentally missed pages which may have become stuck together. It would have been preferable to condense the 15 questions onto only two pages. This would reduce the chances of missing a page and also reduce the thickness of the questionnaire. The questionnaire consisted of 33 pages and the initial reaction of many of the participants

was to comment about the length. Participants were told that approximately 20 minutes was required to complete the questionnaire. Condensing the questionnaire may have assured participants that not a great deal of time was involved.

The layout of Kazdin's T.E.I. questions may have resulted in a response set. The questions were set out so that a checkmark, placed on the right hand side, received a score of 7 signifying greater acceptability than a checkmark placed on the left hand side which received a score of 1, signifying a less acceptable score. Participants may not have seriously considered each question, for example, only ticking down the right hand side of the page resulted in a high score and a procedure rated as highly acceptable. A response set can be avoided by introducing some variety into the questions so that for some questions a checkmark placed on the left hand side receives a high score, signifying greater acceptability.

A number of participants commented that they had found it difficult to rate the acceptability of the different oral reading error correction procedures on the basis of the information presented in the case description. In a real classroom situation they take a holistic view of the child, that is, consideration is made of the type of error, the learning history of the child, and the level of reading. The questionnaire lacks ecological validity and participants in a real life situation would not base decisions on such limited information.

Further research into oral reading error correction procedures is required to examine the generalization of these procedures. The effectiveness of these procedures with subjects with different IQ levels and different ages and reading

levels needs to be investigated.

A number of descriptive studies have compared teacher interruption behaviours between low progress readers and high progress readers (e.g., Allington, 1980). To enable comparisons to be made between the acceptability ratings of error correction procedures for different ability groups, measurements should be made of teachers' acceptability ratings of the error correction procedures when applied to a high progress reader. Low progress readers were reported to be more immediately interrupted than high progress readers (e.g., Gumperz & Hernandez-Chavez, 1972). Results from the T.E.I. showed that teachers rated delay as a very acceptable procedure for the case description (a low progress reader). Word supply, a procedure which involves immediate interruption, was rated as only moderately acceptable. It was also stated that delay was used frequently in the classroom.

Allington (1980) and Pflaum, Pascarella, Boswick and Auer (1980) found that teachers supplied low progress readers with more information about phonemic characteristics of the error word and high progress readers with semantic information. Contrary to this finding previewing was rated as the most acceptable procedure for the case description and was the most frequently used procedure in the classroom. Phonics was rated as only moderately acceptable but was stated as being used frequently in the classroom.

Several other error correction procedures exist, for example, repeated reading (Chomsky, 1978; Martinez & Roser, 1985; Moyer, 1979; Neill, 1980; Samuels, 1979), sentence repeat and end of page review (Jenkins & Larson, 1979). Future investigations could examine teachers' acceptability ratings of these procedures and also combinations of the

procedures that were included in the questionnaire. For example, overcorrection may be combined with positive reinforcement of self-corrected errors (Singh et al., 1984).

Comparative evaluations between the different oral reading error correction procedures are necessary to identify the advantages and disadvantages of different procedures. Future research should be concerned with identifying effective remediation programs. Work in this area has begun. Singh and Singh (1985) evaluated the effects of a behavioural remediation program for oral reading on oral reading errors and comprehension of four mentally retarded children. The behavioural remediation program included previewing, delayed error correction, overcorrection, and positive practice. These procedures were chosen since each one focuses on a different aspect of oral reading and they fall into a logical instructional sequence. The program was found to be effective in reducing oral reading errors and producing increases in comprehension scores.

Variables that may affect the acceptability ratings of each of the six error correction procedures should be investigated further. Research on acceptability has varied the age, gender, intelligence level, the psychiatric or behaviour problem and the setting in which the problem is manifest, to ensure that treatment evaluations were not restricted to these aspects of the case description (Kazdin, 1981; Kazdin et al., 1981; Singh & Katz, 1985). Gender was the only variable which was varied in the case description of this study. Future research should examine each of the above variables with respect to remedial reading procedures. A variable that was specifically found to affect ratings of acceptability was the severity of the behaviour problem (Kazdin, 1980a).

Research also needs to isolate specific characteristics of the oral reading correction procedures that influence teachers' acceptability ratings. For example, the length of teacher time involved or the effects of the intervention on other children in the class, or the repetitiveness of the procedure may prove to be important variables.

This research was concerned with teachers' evaluations of acceptability, with the participants being the potential consumers of the procedures. It would be of interest to evaluate which procedures are most acceptable to the recipients of the procedures and to make comparisons between the teachers' choices and those of the pupils.

Singh and Katz (1985) modified the ratings of acceptability by providing participants with information on the procedures. The effects of ratings could be measured if instructional information on each of the oral reading procedures was given to teachers. It is likely that effective but less well-known procedures, e.g., overcorrection, would be rated more highly if additional information on the procedures are provided to the teachers. In addition, it would be instructive to assess whether taking part in such a study would have any impact on the actual practice of the teachers.

## References

- Allington, R.L. (1980). Teacher interruption behaviours during primary grade oral reading. Journal of Educational Psychology, 72, 371-377.
- Allington, R.L., & Strange, M.S. (1977). Effects of grapheme substitutions in connected text upon reading behaviours. Visible Language, 11, 285-297.
- Alpert, J.L. (1974). Teacher behaviours across ability groups: A consideration of the mediation of pygmalion effects. Journal of Educational Psychology, 66, 348-353.
- Anderson, R.C., Mason, J., & Shirey, L. (1984). The reading group: An experimental investigation of a labyrinth. Reading Research Quarterly, 21, 6-37.
- Au, K.H. (1977). Analyzing oral reading errors to improve reading instruction. The Reading Teacher, 31, 46-49.
- Austin, M., & Coleman, M. (1963). The first R: The Harvard report on reading in elementary schools. New York: Macmillan.
- Biemiller, A. (1970). The development of the use of graphic and contextual information as children learn to read. Reading Research Quarterly, 6, 75-96.
- Burke, E. (1976). A developmental study of children's reading strategies. Educational Review, 29, 30-46.
- Burke, L.L., & Goodman, K.S. (1970). When a child reads: A psycholinguistic analysis. Elementary English, 47, 121-129.
- Chomsky, C. (1978). When you still can't read in third grade: After decoding, what? In S.J. Samuels (Ed.) What research has to say about reading instruction (Pp. 13-30). Newark, Delaware: International Reading Association.

- Clay, M.M. (1967). The reading behaviour of five year old children: A research report. New Zealand Journal of Educational Studies, 2, 11-37.
- Clay, M.M. (1968). A syntactic analysis of reading errors. Journal of Verbal Learning and Verbal Behaviour, 7, 434-438.
- Clay, M.M. (1969). Reading errors and self correction behaviour. British Journal of Educational Psychology, 39, 47-56.
- Clay, M.M. (1979). The early detection of reading difficulties: A diagnostic survey (2nd ed.). Auckland, Heinemann Educational Books.
- Cohen, A.S. (1974/75). Oral reading errors of first grade children taught by a code emphasis approach. Reading Research Quarterly, 10, 615-650.
- Foxx, R.M., & Jones, J.R. (1978). A remediation program for increasing the spelling achievement of elementary and junior high school students. Behaviour Modification, 2, 211-230.
- Gilmore, J.V. (1947). The relation between certain oral reading habits and oral and silent reading comprehension. Unpublished doctoral dissertation. Harvard University.
- Gilmore, J.V. (1951). Gilmore oral reading test. Harcourt, Brace, and World, New York.
- Glasgow, R.E., & Rosen, G.M. (1978). Behaviour bibliography: A review of self help behaviour therapy manuals. Psychological Bulletin, 85, 1-23.
- Goodman, K.S. (1965). A linguistic study of cues and miscues in reading. Elementary English, 42, 639-643.
- Goodman, K.S. (1967). Reading: A psycholinguistic guessing game. Journal of the Reading Specialist, 4, 126-135.

- Goodman, K.S. (1969/70). Analysis of oral reading miscues: applied psycholinguistics. Reading Research Quarterly, 5, 9-30.
- Goodman, K.S. (1973). Miscues: Windows on the reading process. In K.S. Goodman (Ed.), Miscue analysis: Application to reading instruction, (Pp.3-14). Urbana IL:NCTE.
- Goodman, K.S., & Burke, C.L. (1973). Theoretically based studies of patterns of miscues on oral reading performance (U.S.O.E. Project No. 90375), Washington D.C.: US Department of Health, Education and Welfare.
- Goodman, K.S., & Goodman, Y.M. (1977). Learning about psycholinguistic processes by analysing oral reading. Harvard Educational Review, 47, 317-333.
- Goodman, Y. (1970). Using children's reading miscues for teaching new strategies. Reading Teacher, 23, 455-459.
- Gray, W.S. (1963). Gray oral reading test. Indianapolis: Bobbs-Merrill.
- Gumperz, J.J., & Hernandez-Chavez, E. (1972). Bilingualism, bidialectism and classroom interaction. In C.B. Cazden, V.P. John & D. Haynes (Eds.), Functions of language in the classroom. New York: Teachers College Press
- Hood, J. (1975/76). Qualitative analysis of oral reading errors: The inter-judge reliability of scores. Reading Research Quarterly, 11, 577-595.
- Hood, J., & Kendall, J.R. (1975). A qualitative analysis of oral reading errors of reflective and impulsive second graders: A follow-up study. Journal of Reading Behaviour, 7, 269-281.
- Howlett, N., & Weintraub, S. (1979). Instructional procedures. In R.C. Calfee & P. Drum (Eds.), Teaching reading in compensatory classes, (Pp. 87-103). Newark, Delaware International Reading Association.

- Ilg, F.L., & Ames, L.B. (1950). Developmental trends in reading behaviour. Journal of Genetic Psychology, 76, 291-312.
- Jenkins, J.R. (1979). Oral reading: Considerations for special and remedial education teachers. In J.E. Button, T.C. Lovitt & T.D. Rowland, (Eds.), Communications research in learning disabilities and mental retardation, (Pp. 67-91). Baltimore: University Park Press.
- Jenkins, J.R., & Larson, K. (1979). Evaluating error-correction procedures for oral reading. The Journal of Special Education, 13, 145-156.
- Juel, C. (1980). Comparison of word identification strategies with varying context, word type, and reader skills. Reading Research Quarterly, 15, 358-376.
- Kazdin, A.E. (1980a). Acceptability of alternative treatments for deviant child behaviour. Journal of Applied Behaviour Analysis, 13, 259-273.
- Kazdin, A.E. (1980b) Acceptability of time out from reinforcement procedures for disruptive child behaviour. Behaviour Therapy, 11, 329-344.
- Kazdin, A.E. (1981). Acceptability of child treatment techniques: The influence of treatment efficacy and adverse side effects. Behaviour Therapy, 12, 493-506.
- Kazdin, A.E., French, N.H., & Sherick, R.B. (1981). Acceptability of alternative treatments for children: Evaluations by inpatient children, parents and staff. Journal of Consulting and Clinical Psychology, 49, 900-907.
- Kirk, R.E. (1968). Experimental design: Procedures for the behavioural sciences. Belmont, Cal: Brooks/Cole.
- Kirk, S.A., Kliebhan, J.M., & Lerner, J.W. (1978). Teaching reading to slow and disabled learners. Boston: Houghton Mifflin.

- Leu, D.J. (1982). Oral reading error analysis: A critical review of research and application. Reading Research Quarterly, 17, 544-555.
- McDermott, R.P. (1977). Kids make sense: An ethnographic account of the interactional management of success and failures in one first grade classroom (Doctoral Dissertation, Stanford University 1976). Dissertation Abstracts International, 38, 1505A
- McGill-Franzen, A. (1978). Accomplishing reading groups. Unpublished manuscript, State University of New York, Center for reading and language studies, Albany, New York.
- McNaughton, S., & Delquadri, J. (1978). Error attention tutoring in oral reading. In T. Glynn & S. McNaughton, (Eds.), Behaviour Analysis in New Zealand (University of Auckland, Education Department).
- McNaughton, S. & Glynn, T. (1981). Delayed versus immediate attention to oral reading errors: Effects on accuracy and self correction. Educational Psychology, 1, 57-65.
- Madden, M., & Pratt, M. (1941). An oral reading survey as a teaching aid. Elementary English Review, 18, 122-159.
- Martinez, M., & Roser, N. (1985). Read it again: The value of repeated readings during storytime. The Reading Teacher, 38, 782-786.
- Mason, J., & Boggs, J. (1978). A survey of classroom reading instruction - structure and activities in grades two through five. Center for the study of Reading, University of Illinois, Urbana-Champaign.
- Matson, J.L., Esveldt-Dawson, K., & Kazdin, A.E. (1982). Treatment of spelling deficits in mentally retarded children. Mental Retardation, 20, 76-81.

- Meyer, L.A. (1982). The relative effects of word-analysis and word-supply correction procedures with poor readers during word attack training. Reading Research Quarterly, 17, 420-437.
- Monroe, M. (1932). Children who cannot read. Chicago: University of Chicago Press.
- Moyer, S.B. (1979). Rehabilitation of alexia: A case study Cortex, 15, 139-144.
- Moyer, S.B. (1982). Repeated reading. Journal of Learning Disabilities, 15, 619-623.
- Neill, K. (1980). Turn kids on with repeated readings. Teaching Exceptional Children, 12, 63-64.
- Nicholson, T. (1977). The relative effects of different error types on children's understanding of corrected discourse. Paper presented at the Australian Reading Conference. Melbourne.
- Norton, G.R., Austen, S., Allen, G.E., & Hilton, J. (1983). Acceptability of time out from reinforcement procedures for disruptive child behaviour: A further analysis. Child and Family Behaviour Therapy, 5, 31-41.
- Ollendick, T.H., Matson, J.L., Esveldt-Dawson, K., & Shapiro, E. (1980). Increasing spelling achievement: An analysis of treatment procedures utilizing an alternating treatments design. Journal of Applied Behaviour Analysis, 13, 645-654.
- Osgood, C.E., Suci, G.J., & Tannebaum, P.H. (1957). Measurement of meaning. Urbana: University of Illinois Press.
- Pflaum, S.W., Pascarella, E.T., Boswick, M., & Auer, C. (1980). The influence of pupil behaviours and pupil status factors on teacher behaviours during oral reading lessons. Journal of Educational Research, 74, 99-105.

- Perfetti, C.A. & Hogaboam, T. (1975). Relationship between single word decoding and reading comprehension skill. Journal of Educational Psychology, 67, 461-469.
- Rose, T.L. (1984). The effects of previewing on retarded learners' oral reading. Education and Training of the Mentally Retarded, 19, 49-53.
- Rose, T.L., McEntire, E., & Dowdy, C. (1982). Effects of two error correction procedures on oral reading. Learning Disabilities Quarterly, 5, 100-105.
- Rose, T.L., & Sherry, L. (1984). Relative effects of two previewing procedures on L.D. adolescents' oral reading performance. Learning Disability Quarterly, 7, 39-44.
- Samuels, S.J. (1979). The method of repeated readings. The Reading Teacher, 403-408.
- Schale, F.C. (1966). Changes in oral reading errors at elementary and secondary levels. Unpublished doctoral dissertation. University of Chicago.
- Singh, J., & Singh, N.N. (1985). Comparison of word supply and word analysis error correction procedures on oral reading by mentally retarded children. American Journal of Mental Deficiency, 90, 64-70.
- Singh, N.N & Katz, R.C. (1985). On the modification of acceptability ratings for alternative child treatments. Behaviour Modification, 9, 375-386.
- Singh, N.N., & Singh, J. (1984). Antecedent control of oral reading errors and self correction by mentally retarded children. Journal of Applied Behaviour Analysis, 17, 111-119.
- Singh, N.N., & Singh, J. (1985). A behavioural remediation program for oral reading: Effects on errors and comprehension. Submitted for publication.

- Singh, N.N., & Singh, J. (1986a). Reading acquisition and remediation in the mentally retarded. In N.R. Ellis & N.W. Bray (Eds.), International review of research in mental retardation, 14, New York: Academic Press.
- Singh, N.N., & Singh, J. (1986b). Increasing oral reading proficiency: A comparative analysis of drill and positive practice overcorrection procedures. Behaviour Modification, 10, 115-130.
- Singh, N.N., Singh, J., & Winton, A.S.W. (1984). Positive practice overcorrection of oral reading errors. Behaviour Modification, 8, 23-37.
- Singh, N.N., Winton, A.S.W., & Singh, J. (1985). Effects of delayed versus immediate attention to oral reading errors on the reading proficiency of mentally retarded children. Applied Research in Mental Retardation, 6, 283-293.
- Smith, F. (1971). Understanding reading. New York: Holt Rinehart & Winston.
- Spache, G.D. (1963). Diagnostic reading scales. Monterey, Cal.: California Test Bureau.
- Spache, G.D., & Spache, E.B. (1973). Reading in the elementary school. Boston: Allyn & Bacon.
- Stanovich, K.E. (1980). Toward an interactive compensatory model of individual differences in the development of reading fluency. Reading Research Quarterly, 16, 32-71.
- Watson, D.J. (1973). From miscue analysis to strategy lessons. In K.S. Goodman(Ed.), Miscue Analysis: Applications to reading instruction (Pp. 103-115). Urbana, IL.:NCTE.
- Weber, R.M. (1968). The study of oral reading errors: A survey of the literature. Reading Research Quarterly, 4, 96-119.

- Weber, R.M. (1970a). A linguistic analysis of first grade reading errors. Reading Research Quarterly, 5, 427-450.
- Weber, R.M. (1970b). First graders' use of grammatical context in reading. In H. Levin & J. Williams, (Eds.), Basic studies on reading. (Pp. 147-163). New York: Basic Books.
- Weinstein, R. (1976). Reading group membership in first grade, teacher behaviours and pupil experience over time. Journal of Educational Psychology, 6, 103-116.
- West, C.K., & Anderson, T.H. (1976). The question of preponderant causation in teacher expectancy research. Review of Educational Research, 46, 613-630.
- Witt, J.C., & Martens, B.K. (1983). Assessing the acceptability of behavioural interventions used in classrooms. Psychology in the Schools, 20, 510-517.
- Witt, J.C., Martens, B.K., & Elliott, S.N. (1984). Factors affecting teachers' judgments of the acceptability of behavioural interventions: Time involvement, behaviour problem severity and type of intervention. Behaviour Therapy, 8, 204-209.
- Wong, P., & McNaughton, S.S. (1980). The effects of prior provision of context on the oral reading proficiency of a low progress reader. N.Z. Journal of Educational Studies, 15, 169-175.

## Appendix 1

EVALUATION OF DIFFERENT PROCEDURES FOR CORRECTING  
ORAL READING ERRORS

(Please note, strict anonymity is assured in this questionnaire.)

This package includes

- (a) A case description
- (b) Description of six procedures
- (c) One set of questionnaires to evaluate each procedure
- (d) General questions

You are requested to

- (1) Read the case description
- (2) Read the description of the first procedure
- (3) Complete the questionnaire with respect to the procedure you have just read
- (4) Repeat steps 1 to 3 for the second, third, fourth, fifth and sixth procedure
- (5) Answer General Questions (please turn to last page)

PLEASE DO NOT LOOK AHEAD NOR LOOK BACK TO PREVIOUS RESPONSES  
WHEN COMPLETING THE QUESTIONNAIRES.

SUSAN WHITE  
PSYCHOLOGY DEPARTMENT  
UNIVERSITY OF CANTERBURY  
CHRISTCHURCH 1

For Office Use Only:  
Code No.

## CASE DESCRIPTION

Gina is a 7 year 5 month old girl, in a second year classroom (J.2). She is reading texts at an instructional level approximately equivalent to a normal progress child after one year of instruction. Gina is receiving individual remedial reading sessions twice weekly. She has a stanine score of 5 on Clay's Ready to Read word test.

Since Gina began school she has not enjoyed reading. During oral reading sessions typical errors include words that are mispronounced eg she reads "mat" as "mad". Words in the text are omitted eg. "he is a boy" for "he is a big boy". Errors are made by reading the words in the reverse order eg "blue sky" is read as "sky blue". Words are inserted in the text that are not there eg reading "in the court" for "in court", or a different word is read from the word in the text eg she reads "a" for "the". Sometimes she makes no response and just stares at the page waiting for help from the teacher.

### WORD SUPPLY

WORD SUPPLY is a procedure that can be used to improve Gina's oral reading proficiency. Word supply involves the teacher supplying or telling Gina the correct word immediately following an oral reading error, that is before the next word following the error is read. If she pauses after making an error, she is corrected within five seconds of the last word read. Gina is then required to repeat the word.

## TREATMENT EVALUATION INVENTORY

Please complete the items listed below. The items should be completed by placing a checkmark on the line under the question that best indicates how you feel about the procedure. Please read the items very carefully because a checkmark accidentally placed on one space rather than another may not represent the meaning you intended.

1. How acceptable do you find this procedure for correcting oral reading errors?

_____	_____	_____	_____	_____	_____
not at all ac- ceptable			moderately acceptable		very acceptable

2. How willing would you be to use this procedure yourself to correct the child's reading problems?

_____	_____	_____	_____	_____	_____
not at all wil- ling			moderately willing		very willing

3. How suitable is this procedure for children who might have other reading problems than those described for this child?

_____	_____	_____	_____	_____	_____
not at all sui- table			moderately suitable		very suitable

4. If children had to be assigned to a procedure, how bad would it be to apply this procedure?

_____	_____	_____	_____	_____	_____
very bad			moderately cruel		not cruel at all

2.

5. How cruel or unfair do you find this correction procedure?

—	—	—	—	—	—
very cruel			moderately cruel		not cruel at all

6. Would it be acceptable to apply this procedure to children in special schools, the learning disabled or other individuals who are not given an opportunity to choose a procedure for themselves?

—	—	—	—	—	—
not at all ac- ceptable to apply this procedure			moderately acceptable		very ac- ceptable to apply this procedure

7. How consistent is this procedure with commonsense or or everyday notions about what the procedure should be?

—	—	—	—	—	—
very dif- ferent or inconsis- tent			moderately inconsis- tent		very con- sistent with every day notions

8. To what extent does this procedure treat the child humanely?

—	—	—	—	—	—
does not treat humanely at all			treats them moderately humanely		treats them very humanely

3.

9. To what extent do you think there might be risks in using this kind of procedure?

—	—	—	—	—	—
lots of risks are likely			some risks are likely		no risks are likely

10. How much do you like this procedure?

—	—	—	—	—	—
do not like it at all			moderately like it		like it very much

11. How effective is this procedure likely to be ?

—	—	—	—	—	—
not at all effective			moderately effective		very effective

12. How likely is the procedure to make permanent improvement in the child?

—	—	—	—	—	—
unlikely			moderately		very likely

13. To what extent are undesirable side effects likely to result from this procedure?

—	—	—	—	—	—
many undesirable side effect likely			some undesirable side effects likely		no undesirable side effects likely



## PHONICS

PHONICS is a procedure that can be used to improve Gina's oral reading proficiency. In this procedure the teacher identifies what type of word the oral reading error occurred on (that is regular or irregular). Phonically irregular words (for example said, were, two) cannot be taught using this method.

For regular words the teacher directs Gina's attention to various phonetic elements of the error word which enable the word to be pronounced. The words are broken down by the teacher into their letter constituents or syllables, the sounds of the letters or syllables are identified and then the sounds are synthesized to pronounce the word. Gina repeats each sound after the teacher.

## TREATMENT EVALUATION INVENTORY

Please complete the items listed below. The items should be completed by placing a checkmark on the line under the question that best indicates how you feel about the procedure. Please read the items very carefully because a checkmark accidentally placed on one space rather than another may not represent the meaning you intended.

1. How acceptable do you find this procedure for correcting oral reading errors?

_____	_____	_____	_____	_____	_____
not at all ac- ceptable			moderately acceptable		very acceptable

2. How willing would you be to use this procedure yourself to correct the child's reading problems?

_____	_____	_____	_____	_____	_____
not at all wil- ling			moderately willing		very willing

3. How suitable is this procedure for children who might have other reading problems than those described for this child?

_____	_____	_____	_____	_____	_____
not at all sui- table			moderately suitable		very suitable

4. If children had to be assigned to a procedure, how bad would it be to apply this procedure?

_____	_____	_____	_____	_____	_____
very bad			moderately cruel		not cruel at all

2.

5. How cruel or unfair do you find this correction procedure?

_____	_____	_____	_____	_____	_____
very cruel			moderately cruel		not cruel at all

6. Would it be acceptable to apply this procedure to children in special schools, the learning disabled or other individuals who are not given an opportunity to choose a procedure for themselves?

_____	_____	_____	_____	_____	_____
not at all ac- ceptable to apply this procedure			moderately acceptable		very ac- ceptable to apply this procedure

7. How consistent is this procedure with commonsense or or everyday notions about what the procedure should be?

_____	_____	_____	_____	_____	_____
very dif- ferent or inconsis- tent			moderately inconsis- tent		very con- sistent with every day notions

8. To what extent does this procedure treat the child humanely?

_____	_____	_____	_____	_____	_____
does not treat humanely at all			treats them moderately humanely		treats them very humanely

3.

9. To what extent do you think there might be risks in using this kind of procedure?

—	—	—	—	—	—
lots of risks are likely			some risks are likely		no risks are likely

10. How much do you like this procedure?

—	—	—	—	—	—
do not like it at all			moderately like it		like it very much

11. How effective is this procedure likely to be ?

—	—	—	—	—	—
not at all effective			moderately effective		very effective

12. How likely is the procedure to make permanent improvement in the child?

—	—	—	—	—	—
unlikely			moderately		very likely

13. To what extent are undesirable side effects likely to result from this procedure?

—	—	—	—	—	—
many undesirable side effect likely			some undesirable side effects likely		no undesirable side effects likely



**OVERCORRECTION/POSITIVE PRACTICE**

OVERCORRECTION/POSITIVE PRACTICE is a procedure that can be used to improve Gina's oral reading proficiency. In using positive practice, when an oral reading error is made the teacher points to the error word and supplies the correct word. Gina is required to point to the word and repeat the word five times correctly. The sentence in which the word occurred is then reread by Gina.

## TREATMENT EVALUATION INVENTORY

Please complete the items listed below. The items should be completed by placing a checkmark on the line under the question that best indicates how you feel about the procedure. Please read the items very carefully because a checkmark accidentally placed on one space rather than another may not represent the meaning you intended.

1. How acceptable do you find this procedure for correcting oral reading errors?

_____	_____	_____	_____	_____	_____
not at all ac- ceptable			moderately acceptable		very acceptable

2. How willing would you be to use this procedure yourself to correct the child's reading problems?

_____	_____	_____	_____	_____	_____
not at all wil- ling			moderately willing		very willing

3. How suitable is this procedure for children who might have other reading problems than those described for this child?

_____	_____	_____	_____	_____	_____
not at all sui- table			moderately suitable		very suitable

4. If children had to be assigned to a procedure, how bad would it be to apply this procedure?

_____	_____	_____	_____	_____	_____
very bad			moderately cruel		not cruel at all

2.

5. How cruel or unfair do you find this correction procedure?

_____	_____	_____	_____	_____	_____
very cruel			moderately cruel		not cruel at all

6. Would it be acceptable to apply this procedure to children in special schools, the learning disabled or other individuals who are not given an opportunity to choose a procedure for themselves?

_____	_____	_____	_____	_____	_____
not at all ac- ceptable to apply this procedure			moderately acceptable		very ac- ceptable to apply this procedure

7. How consistent is this procedure with commonsense or or everyday notions about what the procedure should be?

_____	_____	_____	_____	_____	_____
very dif- ferent or inconsis- tent			moderately inconsis- tent		very con- sistent with every day notions

8. To what extent does this procedure treat the child humanely?

_____	_____	_____	_____	_____	_____
does not treat humanely at all			treats them moderately humanely		treats them very humanely

3.

9. To what extent do you think there might be risks in using this kind of procedure?

_____	_____	_____	_____	_____
lots of risks are likely		some risks are likely		no risks are likely

10. How much do you like this procedure?

_____	_____	_____	_____	_____
do not like it at all		moderately like it		like it very much

11. How effective is this procedure likely to be ?

_____	_____	_____	_____	_____
not at all effective		moderately effective		very effective

12. How likely is the procedure to make permanent improvement in the child?

_____	_____	_____	_____	_____
unlikely		moderately		very likely

13. To what extent are undesirable side effects likely to result from this procedure?

_____	_____	_____	_____	_____
many undesirable side effect likely		some undesirable side effects likely		no undesirable side effects likely



## PREVIEWING

PREVIEWING is a procedure that can be used to improve Gina's oral reading proficiency. This procedure involves a discussion between the teacher and Gina before she is required to orally read the story.

The discussion begins with the title of the story, words not understood in the title are explained. The teacher presents a brief outline of the story using pictures accompanying the text. Any new and important words, phrases and expressions are introduced orally but not identified in the text. Any questions Gina may have are answered by the teacher. The teacher also questions her as to the meaning of a number of important words. If she answers incorrectly the correct answer is given.

## TREATMENT EVALUATION INVENTORY

Please complete the items listed below. The items should be completed by placing a checkmark on the line under the question that best indicates how you feel about the procedure. Please read the items very carefully because a checkmark accidentally placed on one space rather than another may not represent the meaning you intended.

1. How acceptable do you find this procedure for correcting oral reading errors?

_____	_____	_____	_____	_____	_____
not at all ac- ceptable			moderately acceptable		very acceptable

2. How willing would you be to use this procedure yourself to correct the child's reading problems?

_____	_____	_____	_____	_____	_____
not at all wil- ling			moderately willing		very willing

3. How suitable is this procedure for children who might have other reading problems than those described for this child?

_____	_____	_____	_____	_____	_____
not at all sui- table			moderately suitable		very suitable

4. If children had to be assigned to a procedure, how bad would it be to apply this procedure?

_____	_____	_____	_____	_____	_____
very bad			moderately cruel		not cruel at all

2.

5. How cruel or unfair do you find this correction procedure?

_____	_____	_____	_____	_____	_____
very cruel			moderately cruel		not cruel at all

6. Would it be acceptable to apply this procedure to children in special schools, the learning disabled or other individuals who are not given an opportunity to choose a procedure for themselves?

_____	_____	_____	_____	_____	_____
not at all ac- ceptable to apply this procedure			moderately acceptable		very ac- ceptable to apply this procedure

7. How consistent is this procedure with commonsense or or everyday notions about what the procedure should be?

_____	_____	_____	_____	_____	_____
very dif- ferent or inconsis- tent			moderately inconsis- tent		very con- sistent with every day notions

8. To what extent does this procedure treat the child humanely?

_____	_____	_____	_____	_____	_____
does not treat humanely at all			treats them moderately humanely		treats them very humanely

3.

9. To what extent do you think there might be risks in using this kind of procedure?

lots of risks are likely

some risks are likely

no risks are likely

10. How much do you like this procedure?

do not like it at all

moderately like it

like it very much

11. How effective is this procedure likely to be ?

not at all effective

moderately effective

very effective

12. How likely is the procedure to make permanent improvement in the child?

unlikely

moderately

very likely

13. To what extent are undesirable side effects likely to result from this procedure?

many undesirable side effect likely

some undesirable side effects likely

no undesirable side effects likely



### DRILL

DRILL is the procedure that can be used to improve Gina's oral reading proficiency. After each oral reading error the teacher supplies the correct word. Each error made during the text is recorded. The teacher then prints all the error words on index cards. These cards are then presented individually to Gina. If read incorrectly the card is removed. For each incorrect word the teacher supplies the word and asks "what word?" and Gina repeats the word. This card is then placed at the bottom of the deck. The procedure is continued until every word has been read correctly. All cards are then shuffled and the presentation procedure is repeated. The entire deck must be read correctly on two consecutive occasions.

## TREATMENT EVALUATION INVENTORY

Please complete the items listed below. The items should be completed by placing a checkmark on the line under the question that best indicates how you feel about the procedure. Please read the items very carefully because a checkmark accidentally placed on one space rather than another may not represent the meaning you intended.

1. How acceptable do you find this procedure for correcting oral reading errors?

_____	_____	_____	_____	_____	_____
not at all ac- ceptable		moderately acceptable			very acceptable

2. How willing would you be to use this procedure yourself to correct the child's reading problems?

_____	_____	_____	_____	_____	_____
not at all wil- ling		moderately willing			very willing

3. How suitable is this procedure for children who might have other reading problems than those described for this child?

_____	_____	_____	_____	_____	_____
not at all sui- table		moderately suitable			very suitable

4. If children had to be assigned to a procedure, how bad would it be to apply this procedure?

_____	_____	_____	_____	_____	_____
very bad		moderately cruel			not cruel at all

2.

5. How cruel or unfair do you find this correction procedure?

—	—	—	—	—	—
very cruel			moderately cruel		not cruel at all

6. Would it be acceptable to apply this procedure to children in special schools, the learning disabled or other individuals who are not given an opportunity to choose a procedure for themselves?

—	—	—	—	—	—
not at all ac- ceptable to apply this procedure			moderately acceptable		very ac- ceptable to apply this procedure

7. How consistent is this procedure with commonsense or or everyday notions about what the procedure should be?

—	—	—	—	—	—
very dif- ferent or inconsis- tent			moderately inconsis- tent		very con- sistent with every day notions

8. To what extent does this procedure treat the child humanely?

—	—	—	—	—	—
does not treat humanely at all			treats them moderately humanely		treats them very humanely

3.

9. To what extent do you think there might be risks in using this kind of procedure?

—	—	—	—	—	—
lots of risks are likely			some risks are likely		no risks are likely

10. How much do you like this procedure?

—	—	—	—	—	—
do not like it at all			moderately like it		like it very much

11. How effective is this procedure likely to be ?

—	—	—	—	—	—
not at all effective			moderately effective		very effective

12. How likely is the procedure to make permanent improvement in the child?

—	—	—	—	—	—
unlikely			moderately		very likely

13. To what extent are undesirable side effects likely to result from this procedure?

—	—	—	—	—	—
many undesirable side effect likely			some undesirable side effects likely		no undesirable side effects likely



### DELAYED ERROR CORRECTION

DELAYED ERROR CORRECTION is a procedure that can be used to improve Gina's oral reading proficiency. In this procedure the teacher delays attending to the oral reading error until Gina has finished the sentence in which the error occurred, the correct word is then supplied. If she pauses after making the error, the teacher delays attention for 10 to 15 seconds before supplying the correct word. She then rereads the whole sentence.

## TREATMENT EVALUATION INVENTORY

Please complete the items listed below. The items should be completed by placing a checkmark on the line under the question that best indicates how you feel about the procedure. Please read the items very carefully because a checkmark accidentally placed on one space rather than another may not represent the meaning you intended.

1. How acceptable do you find this procedure for correcting oral reading errors?

_____	_____	_____	_____	_____	_____
not at all ac- ceptable			moderately acceptable		very acceptable

2. How willing would you be to use this procedure yourself to correct the child's reading problems?

_____	_____	_____	_____	_____	_____
not at all wil- ling			moderately willing		very willing

3. How suitable is this procedure for children who might have other reading problems than those described for this child?

_____	_____	_____	_____	_____	_____
not at all sui- table			moderately suitable		very suitable

4. If children had to be assigned to a procedure, how bad would it be to apply this procedure?

_____	_____	_____	_____	_____	_____
very bad			moderately cruel		not cruel at all

2.

5. How cruel or unfair do you find this correction procedure?

_____	_____	_____	_____	_____
very cruel		moderately cruel		not cruel at all

6. Would it be acceptable to apply this procedure to children in special schools, the learning disabled or other individuals who are not given an opportunity to choose a procedure for themselves?

_____	_____	_____	_____	_____
not at all ac- ceptable to apply this procedure		moderately acceptable		very ac- ceptable to apply this procedure

7. How consistent is this procedure with commonsense or or everyday notions about what the procedure should be?

_____	_____	_____	_____	_____
very dif- ferent or inconsis- tent		moderately inconsis- tent		very con- sistent with every day notions

8. To what extent does this procedure treat the child humanely?

_____	_____	_____	_____	_____
does not treat humanely at all		treats them moderately humanely		treats them very humanely

3.

9. To what extent do you think there might be risks in using this kind of procedure?

_____	_____	_____	_____	_____
lots of risks are likely		some risks are likely		no risks are likely

10. How much do you like this procedure?

_____	_____	_____	_____	_____
do not like it at all		moderately like it		like it very much

11. How effective is this procedure likely to be ?

_____	_____	_____	_____	_____
not at all effective		moderately effective		very effective

12. How likely is the procedure to make permanent improvement in the child?

_____	_____	_____	_____	_____
unlikely		moderately		very likely

13. To what extent are undesirable side effects likely to result from this procedure?

_____	_____	_____	_____	_____
many undesirable side effect likely		some undesirable side effects likely		no undesirable side effects likely

4.

14. How much discomfort is the child likely to experience during the application of this procedure?

\_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_  
very much      moderate      no discom-  
discomfort      discomfort      fort

15. Overall, what is your general reaction to this procedure?

\_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_  
very neg-      ambivalent      very positive  
ative

## GENERAL QUESTIONS

Sex:

Age:

Number of years teaching:

What class(es) are you currently teaching:

Number of years teaching this class(es):

Additional qualifications in teaching reading: YES/NO

(If YES please state) \_\_\_\_\_

1. Which procedure(s) do you use most frequently in correcting oral reading errors?  
(TICK BOX)
- Positive Practice
  - Delayed Error Correction
  - Drill
  - Phonics
  - Word Supply
  - Previewing
  - Other (please specify) \_\_\_\_\_

N.B. IF YOU TICKED MORE THAN ONE BOX PLEASE ANSWER ALL THE FOLLOWING QUESTIONS, IF NOT GO TO QUESTION 4.

2. Please rank your order of preference for these procedures (from most to least preferred).
3. Do you use different procedures for different children or the same combination of procedures for all children?
4. What merits can you see in your most frequently used procedure?

## Appendix 2



Department of Psychology  
University of Canterbury Christchurch 1 New Zealand

RE - Questionnaire Evaluating Six Different Procedures For  
Correcting Oral Reading Errors

Dear Principal & Staff,

I would like to express my sincere appreciation to all those who took part in the above mentioned questionnaire.

The whole purpose of the questionnaire was to answer one question that is how acceptable do teachers rate each of the six procedures for correcting oral reading errors. The six procedures were taken from a variety of sources in the literature on the correction of oral reading errors.

A.E. Kazdin, a prestigious American psychologist originally designed the questionnaire to evaluate different punishment techniques. The validity of the questionnaire has been demonstrated and could therefore be used to evaluate other procedures or techniques in different situations. The questionnaire was then adapted by myself and my supervisor to evaluate different procedures for correcting oral reading errors.

I will briefly try to attempt to answer some of the queries that have been made about the questionnaire. Comments were made about there being inadequate information given in the case description. The case description was hypothetical and was included in an attempt to elicit some response to the six procedures, rather than a general evaluation of the teaching of oral reading.

Remarks were also made about the emotive language used. For statistical reasons it was necessary to replicate the exact format of Kazdin's questionnaire and therefore it was not possible to change the wording of any of the questions.

When my research is completed if you are interested in the findings ,I will gladly forward you a copy.

Again, I express my gratitude for your participation.

Yours faithfully,