

CHAPTER 9      **STUDY TWO - CASE STUDIES -  
DATA ANALYSIS, DISCUSSION**

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## CHAPTER 9

### STUDY TWO- CASE STUDIES - DATA ANALYSIS, DISCUSSION

#### 9.1 INTRODUCTION

In this chapter, quantitative data from the South Australian Spelling Test (1993) and the PRETOS, Proof-Reading Test of Spelling (1981) for each of the three classes, is examined. Qualitative data pertaining to students' attitude and knowledge in each of the classes is sorted, analysed and discussed. Subsequently each case study is examined within the particular class context. For each case study, four positive instances and two negative instances, data is sorted, analysed and discussed according to the proposed framework (Attitude, Knowledge, Strategies and Skills/Procedures) and further into other categories within that framework. Summaries for each case study are given and finally the effectiveness of the intervention is explored.

#### 9.2 ANALYSIS OF DATA AND DISCUSSION

In an endeavour to understand the complexity and reality of conducting the research in three different integrated classrooms, it is believed that the researcher may need to move beyond what is purely descriptive and analytical to interpretive. It is noted that the primary role of the qualitative researcher is to provide what Geertz (1973, 5) refers to as a "thick description" and a detailed analysis that will yield valuable explanations about the particular situation (Marshall & Rossman, 1989). However, Patton (1990) argues, that when study of the data gives rise to

ideas about possible causal relationships, the researcher can offer hypotheses about those relationships. Going beyond description to interpret the data is appropriate as long as the "researcher owns the interpretation and makes clear the difference between description and interpretation " (Patton, 1990, 423).

## 9.21 YEAR 5/6 R.

### Class Context

In Mrs R's class, all of the students received direct instruction with relation to each of the spelling strategies (to learn words, to attempt the spelling of unfamiliar words in writing and in proof reading). It is believed that in this particular class, the focus was on the use of a variety of strategies depending upon the particular learning style and/or needs of the individual student and on the particular word being spelled. This was continually reinforced in a variety of writing situations.

There was a whole class focus on the importance of accurate spelling in final drafts of writing and on the need for students to strive towards independence in writing. There was also a whole class focus on building up a sound knowledge base about the English spelling system eg the English spelling system is regular (sound, letter sequence and meaning levels).

At the group level (four in all), work in word study sessions depended upon the overall needs of the group. In particular, what was done in word study sessions depended upon the particular misspellings that appeared in the students' writing eg a discovery approach to the rules for adding endings - "ing". During word study time, some groups worked independently, others worked with an Aide, a Parent, the Class Teacher or the Support Teacher. In word study sessions, the purpose of the activity was always explained and wherever possible the students worked co-operatively on spelling games devised to meet the particular need/needs.

**Spelling Ability in Isolation - South Australian Spelling Test - Year 5/6 R.**

An examination of the mean of the spelling ages in the March pretest (10.4 years) and the mean of the spelling ages in the November post test (11.3 years) indicates that the intervention might have been effective. Even when the time factor (0.7 year) was taken into account and the mean for the spelling ages in the November post test was compared with the mean for the predicted spelling ages (10.8 years) it appeared that the intervention might have been effective (Refer to Figure 6). Since the obtained value of the F-statistic (Refer to Figure 6) has a p-value (0.0084) lower than the p-value (0.05) specified in the null hypothesis, the researcher can declare that the difference in the means was statistically significant, and the null hypothesis can be rejected. Subsequently it can be stated that the intervention was effective in improving the students' spelling ability (in isolation).

**SPELLING ABILITY IN ISOLATION (SOUTH AUSTRALIAN SPELLING TEST) - YEAR 5/6 R.**

ANOVA Table for Compact Variable Spell age 5/6

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Subject	24	195.983	8.166		
Category for Compact Vari...	1	2.645	2.645	8.255	.0084
Category for Compact Vari...	24	7.690	.320		

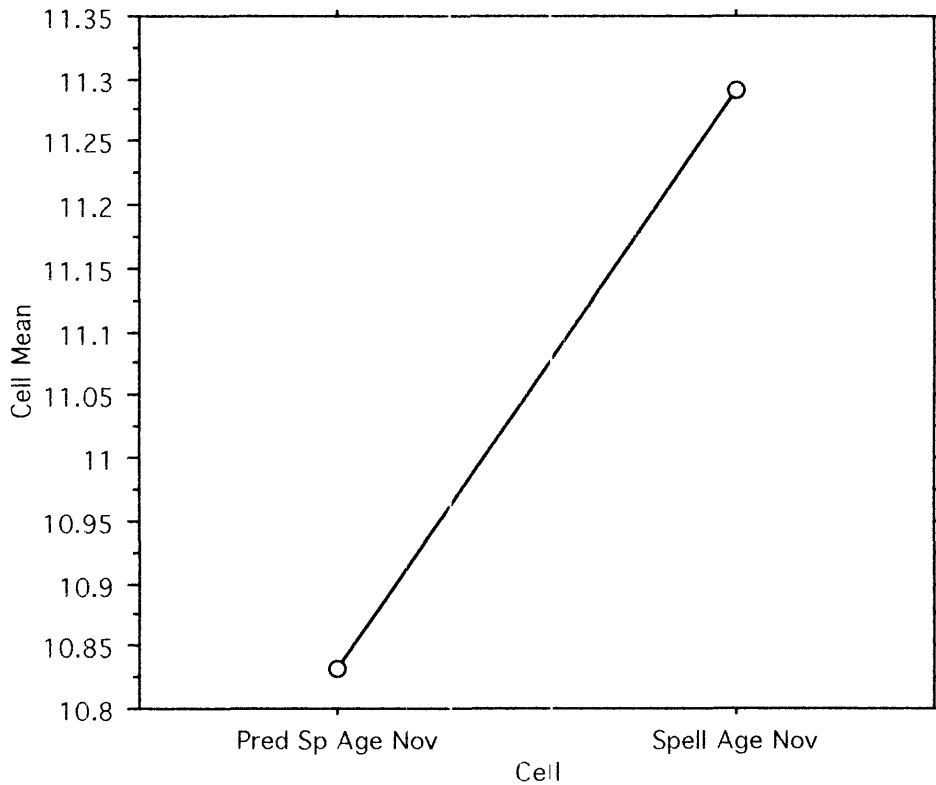
Reliability Estimates - All Treatments: .949; Single Treatment: .904

One case was omitted due to missing values.

Means Table for Compact Variable Spell age 5/6  
Effect: Category for Compact Variable Spell age 5/6

	Count	Mean	Std. Dev.	Std. Err.
Pred Sp Age Nov	25	10.832	1.918	.384
Spell Age Nov	25	11.292	2.193	.439

One case was omitted due to missing values.



One case was omitted due to missing values.

**Figure 6 ANOVA TABLE - SPELLING ABILITY YEAR 5/6 R**

A closer examination of data from the South Australian Spelling Test (Westwood, 1993) revealed that although all students appeared to make gains in spelling ability in isolation, according to the test, six students did not make the predicted gain of 0.7 year in the interval between the pre and post tests. However, the class teacher remarked that she had seen an improvement in all students (Refer to Teacher Questionnaire, Appendix BB).

All of the students (seven) identified as very poor spellers, except Veronica (the special needs student), made the expected gain. Within the group of very poor spellers the gains ranged between 0.8 year to 2.0 years. Those identified as good readers but very poor spellers in this group, Natasha and Paul, gained 2.0 years and 1.1 years respectively. The greatest gain of 3.5 years was achieved by Kathleen who was considered to be a good speller before the intervention. It should also be noted that two students, Andrew and Philip, who were identified as good spellers before the intervention, may appear not to have gained because they achieved the highest possible score in the test in both pre and post situations.

#### **Proof Reading Ability - PRETOS - Proof Reading Test of Spelling - Year 5/6 R.**

An examination of the mean of production scores (percentile rank, PR) in the March pretest (55.04) and the mean of the production scores (percentile rank, PR) in the November post test (57.08) indicates that the intervention might have been effective. However, since the obtained value of the F-statistic has a p-value greater than the p-value (0.05) specified in the null hypothesis, the researcher cannot declare that the difference in the means was statistically significant, and the null hypothesis cannot be rejected. Subsequently it cannot be stated that the intervention was effective in improving the students' ability to discriminate between misspelt words and correctly spelt words in context.

It should be noted that proof reading was one of the aspects of the intervention and the aim was for students to become independent in correcting their own writing. However, the PRETOS Tests (Croft et al, 1981) involve more than correcting wrong spelling. The tests involve

reading and understanding a text with a scaled vocabulary according to age level. It is argued that this disadvantages the students who have not reached that level of reading ability.

### **Attitude - Year 5/6 R**

Refer to Student Questionnaires (Appendix C), Interviews (Appendix D), Anecdotal Records (Appendix U) and Teacher Questionnaire (Appendix BB).

### **Development of Spelling Conscience**

All students in the class commented on the need to be able to spell accurately when they leave school. The majority of the answers related to assignments in secondary school, employment as an adult and job applications. However, Kara's and Louise's comments inferred that spelling is part of life.

All of the students in the class believed that it was important for them to strive for accuracy in final drafts of writing. A large majority referred to the need for others to understand what was written. Many answers referred to the fact that the writing was being made public. Jesse felt that the student who made spelling mistakes may be belittled by others.

### **Confidence in Ability to Spell**

All except three (Tim, Louise and Stephen) of the students believed that their spelling had improved during the year. Tim, who gained 1.5 years, was identified as a poor speller before the intervention. Tim wrote a definite, "No." and commented that he did not try and did not learn the spelling. Tim has social/emotional problems because of his family situation, and it is hypothesised that the reason for his believing that his spelling had not improved, may have been partly due to his negative attitude to life in general at the time of the assessment. Stephen, who gained 2.5 years to achieve a score of 15.5 years, was a good speller before the intervention. He stated that he could not be sure that he had improved. Louise, identified as average in both reading and spelling before the intervention, stated that she had, "sort of" improved. Louise



was one of the students who did not make the expected gain in spelling and was therefore selected as a case study.

Comments about why they felt they had improved in spelling varied.

Monique - "I just know I am."

Shane - "I always get words right."

Madelyn - "The more spelling I do, the better I get."

Ben - "I have improved on my homework sheet."

Emilie - "I am starting to learn them."

Jesse - "Because I read books."

Kristy - "Because in Grade Four I was a really bad speller."

Veronica - "Because I go to Mrs S. (Support Teacher)."

Elizabeth - "Because I'm learning different ways (strategies)."

Alison - "I am 'chunking' (strategy) more."

While some of the students believed that good marks on the Friday test was an indication of improved spelling ability, others referred to the influence of reading on spelling; the help they had received and the strategies they were using to assist with spelling.

### **Enjoyment in Writing**

The majority of the students believed that their ability to write effectively had been hindered by their inability to spell easily and automatically. Alison commented, "You wouldn't waste a lot of time." Candice stated, "Because you can do your story without stopping." Monique believed that it would enable her to write a more interesting story.

However, three of the good spellers believed that their story writing would not be effected if they could not spell better because they have always loved writing. Conversely, four students (one a hard core poor speller, two average spellers and one good speller) believed that they would not enjoy writing stories more if they could spell better, because they did not like story writing.

### **Knowledge of Strategies - Year 5/6 R**

Refer to Student Questionnaires (Appendix C), Interviews (Appendix D), Anecdotal Records (Appendix U) and Teacher Questionnaire (Appendix BB).

Before the intervention, the majority of students in the class expressed the knowledge of three main strategies (ask the teacher or another student; spell it out; sound out; leave the word out; ask the teacher for the first three letters; or look in the dictionary). Before the intervention, Andrew said that he would assist a student who asked for the spelling of a word by simply telling them how to spell it.

After the intervention, the knowledge of possible strategies to assist with unknown words had increased with the great majority of students. Many readily expressed that they used or would tell others to use a variety of strategies including:- I write what I think it is and circle it; I put a ring around it and come back to it later; chunking; memory triggers; and I check to see if it looks right. Emilie stated that if someone asked her how to spell a difficult word, she would show them the McLert chart. Andrew explained that if someone asked for his help in spelling that he would get them to write how they thought the word was spelt and then he would correct the letters one at a time. This is a strategy adopted by the teachers whereby the students are guided to the part of the word that is incorrect.

### **Knowledge of Proof Reading - Year 5/6 R**

Refer to Student Questionnaires (Appendix C), Interviews (Appendix D), Anecdotal Records (Appendix U) and Teacher Questionnaire (Appendix BB).

Although it cannot be specifically stated that the intervention itself was effective in improving the students' ability to discriminate between misspelt words and correctly spelt words in context, the researcher believes that the intervention did make a difference in that the students in this class became more aware of what proof reading was and the need to use it as a natural part of the writing process. It is also believed that for the majority of students there was a desire to become independent in correcting their own work.

Comments before the intervention included:-

Candice - "Where the teacher looks at your work."

Paul - "It's non fiction."

Jesse diverted the question back to the teacher. - "Yes, what is proof reading? The great majority of students left the questions about proof reading out or answered, "I don't know."

Comments after the intervention included:-

Kara - "It gives you an opportunity to check your work yourself."

Emilie - "Seeing if there are any mistakes - to see where you need help."

(Words that were misspelt in the students' writing became the focus for teaching.)

Jesse - "Looking for mistakes so you don't get words wrong."

Candice - "So people can understand your writing."

Many referred to the use of C.O.P.S., the mnemonic used to assist with proof reading.

Within this class (Year 5/6 R) context, three case studies (Natasha and Belinda, positive instances, and Louise, a negative instance) are examined. For each case study, data is sorted, analysed and discussed according to the proposed framework (Attitude, Knowledge, Strategies and Skills/Procedures). Summaries for each case study are given.

### **9.22 CASE STUDY (positive instance) - Natasha - Year 5/6 R**

Before the Intervention Natasha was considered to be a average/good reader but poor speller

Table 4

#### Average to Good Reader but Poor Speller Year 5/6R - Natasha

Chr. Age	TORCH	Spell. Age	Spell .Age	PRETOS	PRETOS
Mar	Mar	Mar	Nov	Mar	Nov
10.9 years	90 (PR)	9.2 years	11.2 years	28 (PR)	41 (PR)

Natasha was in the lowest spelling group in her class. Many of the students in this group appeared to have phonemic awareness problems.

Other areas of need included:- short and long vowels, blends, consonant digraphs, plurals, rules for adding endings "-ing" and homophones. Students in this group seemed to be unaware that every syllable in a word had a vowel and it is believed that some of their spelling problems could be associated with poor articulation.

### **Attitude - Natasha (Year 5/6 R)**

Refer to Questionnaire (Appendix C), Interviews (Appendix D) and Spelling in Expressive Writing Assessments (Appendix H)

### **Development of a Spelling Conscience**

Both before the intervention and after the intervention Natasha believed that it was important to spell correctly. She commented that spelling needs to be accurate if a person's writing is to be understood by others and that accurate spelling is necessary when applying for a job and in most occupations.

She continued to believe that spelling mistakes were permissible in first drafts of writing since she would be given the opportunity to proof read her work.

### **Confidence in Ability to Spell**

Before the intervention, Natasha believed that she was not a good speller. She believed that she was not good at spelling because she didn't read much. After the intervention, she commented that she still was not good at spelling but that she had improved. "I'm getting better because I hardly ever got my spelling right." She also stated that she now knows which words she has trouble with. "Before, when I had hard words, I would say, 'No, they are too hard and I would just guess them.'" Other comments at the pre intervention stage indicated that she had a somewhat 'no care' attitude towards spelling. "I couldn't be bothered using my dictionary. I don't like looking up words. I'd rather guess."

She believed that her improvement in spelling was as a result of her really trying; her sounding out and then seeing if the word looks right; and because of the fact that she was reading a lot more. According to

Natasha, reading was helping her to spell because she was seeing a lot of words. Even though she felt that she had improved, she considered that there was still room for more improvement and that she would need more word study lessons.

### **Enjoyment in Writing, Interest in Words and Willingness to Experiment**

It is considered that Natasha really did not like writing. It appeared that this would have been the case both before and after the intervention. Before the intervention, Natasha commented that she would enjoy writing more if she could spell better. At the time, she felt that she was being hampered in her writing because of the fact that she had to constantly stop and think about how to spell. After the intervention, the reasons for disliking writing had shifted to other factors:- inability to write neatly and a sore hand and neck from writing for long periods. The best part about writing was, according to her, "reading it after she had finished it."

#### **Skills /Procedures - Natasha (Year 5/6 R)**

**Student's Spelling Ability in Isolation** (South Australian Spelling Test - Quantitative Data Analysis) Refer to Table 4.

According to the pre and post test results on South Australian Spelling Test (Westwood, 1993), Natasha gained 2.0 years in a period of 0.7 year. Before the intervention it is believed that she was at Henderson's (1985) late within-word pattern stage of spelling development. She appeared to have difficulties with short and long vowels in single syllable words and with plurals. It seemed that she was unaware of certain letter sequences - 'fight/ fite. She appeared to have difficulties with phonemic awareness. This was evidenced in multi syllable words where syllables were missing - 'different/deffent' or added 'signature/signatiture'.

After the intervention, all single syllable words in the post test were spelt correctly. She demonstrated that she was able to accurately spell three of the multi syllable words and many of her misspellings were close approximations - 'embarrassing/ embarassing'.

### **Student's Use of Spelling Skills /Procedures in Isolation and in Context (Qualitative Data Gathering Techniques)**

Refer to Informal Spelling Inventory (Appendix E), Think - Alouds - Dictation / Proof Reading Assessment (Appendix G), Motoring of Spelling in Expressive Writing (Appendix I), Monitoring of Proof Reading (Appendix K), South Australian Spelling Test (Appendix V) and PRETOS Test (Appendix Y).

On the PRETOS test (Croft, Gilmore, Reid & Jackson, 1981) which primarily assesses the students ability to discriminate between misspelt words and correctly spelt words in context, Natasha achieved a percentile rank of 28 on the pre test and a percentile rank of 41 on the post test of the production task (correcting the spelling mistakes). On the pre test of the recognition task (identifying the mistakes) , she achieved a percentile rank of 20 and on the post test, she achieved a percentile rank of 42.

It was noted, in study one, that the ability of students to perform on the PRETOS proof reading task seemed to be greatly influenced by their reading ability. Natasha was identified as a good reader (She scored a percentile rank of 90 on the Torch comprehension test.) but a poor speller before the intervention. It would seem from the results of the PRETOS test, particularly the recognition task, that Natasha had begun to pay more attention to the appearance of the words. The fact that she felt she was reading more and that her spelling had improved because of this lends support to this argument.

In a structured proof reading task in August, Natasha demonstrated that she was capable of identifying and correcting 20% of the errors. This had increased to a correction rate of 50% on the September task. Natasha approached the final dictation/proof reading task used to observe Think Alouds (results to be described more fully in the next strategy section) carefully and confidently and was able to identify and correct one of the three errors that she made.

In March, Natasha demonstrated the ability to write 81 words at an accuracy level of 87.6%. At this time, Natasha's mother noted in Natasha's language book (an exercise book in which students do a variety of writing tasks) that she felt that Natasha's writing was improving but

that she was concerned about Natasha's spelling. In June, she wrote 189 words at an accuracy level of 95.7%. For the Queensland Year 6 Literacy Test (an activity of the recent Queensland Government's Shaping the Future initiatives. This is the first time that Year 6 students in Queensland have participated in a state wide test of aspects of literacy and numeracy) in September, students were asked to write an article for a school newsletter. Students were given 25 minutes to respond to a stimulus. (Refer to Appendix U, Anecdotal Record 59). Natasha wrote 119 words at an accuracy level of 94.9%. On her student report, she was placed in the middle of the average range for this task. On the last day of school, Natasha's mother called to thank the Class Teacher and Support Teacher. She believed that Natasha had improved significantly in her spelling and writing during the last term. (Refer to Appendix U, Anecdotal Record 81).

The above data tends to indicate that Natasha improved in her spelling ability during the intervention period. This improvement was evident in spelling in isolation and in context. The data also indicates that Natasha improved in her ability to proof read. This was evident in both structured proof reading tasks and in proof reading of her own writing.

### **Strategies - Natasha (Year 5/6 R)**

Refer to Informal Spelling Inventory (Appendix E) , Think-Alouds - Dictation / Proof Reading Assessment (Appendix G) and Motoring of Spelling in Expressive Writing (Appendix I) and South Australian Spelling Test (Appendix V).

After the intervention, there was evidence that Natasha was not only able to use a repertoire of preferred strategies (sound out and check to see if the word looks right) but to plan, regulate and evaluate her own use of those strategies. This metacognitive ability was evident in the final Think Aloud - Dictation/Proof Reading task. It should be noted that before the intervention, Natasha had problems with long and short vowels and with homophones and with writing multi syllable words, possibly because of an inability, at the time, to hear and process the sounds in words.

She seemed to monitor her spelling as she wrote. She had three attempts at the word "rode" before writing it correctly. Firstly, she wrote "rod" and then "road". As she rubbed out and wrote again she tended to think aloud. She went through a similar process with the word "bike".

Initially she wrote "bick" before changing it to "bike". A similar process was used for the word "impossible". In her first attempt, she wrote "impossibel"; she looked at it; rubbed out the ending and wrote "impossible"; looked at it again and then proceeded with the next word. She corrected her spelling of the word "situation" during proof reading. She approached the proof reading task carefully and confidently. After she had completed her work, she was able to explain to the researcher the process she used to correct the word "situation". Initially she had written "suiation". She looked at the word; thought that it was wrong; sounded out the word carefully; wrote what she thought and then looked to see if she was right.

Before the intervention, Natasha commented that she generally used to guess the words. She did say that she sounded out words or asked someone. She also remarked that she was too lazy to look in the dictionary. Generally it would seem that she had a "no care" attitude to spelling, or she depended on someone else. After the intervention during the interview, she stated how she used the strategies witnessed during the Think Aloud task. The use of these strategies seemed to have been reinforced by what her mother did at home as well. Her mother would no longer tell Natasha how to spell a word when she was asked. Rather, Natasha was told to have a go first.

It would seem that, through using these strategies Natasha had become more independent in spelling. It would seem that she had improved in her use of the phonetic strategy and had begun to use a visual strategy as well. Above all she had begun to successfully monitor her use of these strategies.

### **Knowledge - Natasha (Year 5/6 R )**

Refer to Questionnaire (Appendix C) and Interview (Appendix D).

From the available information, it is considered that Natasha's knowledge of spelling strategies and of the proof reading procedure had not increased substantially during the intervention. However, it was her attitude towards the use of these strategies that brought about the improvement in her spelling in isolation and in context and in her proof



reading. It is hypothesised that she found the use of these strategies fruitful.

It is believed that there was a growth in knowledge about the spelling system that, considering her spelling errors before the intervention, may have seemed a mystery. In word study sessions in which groups of students with like needs were involved in co operative problem solving tasks, students, including Natasha, were given the opportunity to discuss their individual difficulties and misconceptions about the English language. (Refer to Appendix U, Anecdotal Records 54, 56, 63, 64). It is considered that this knowledge and use of this knowledge in spelling in isolation and in context had led to an improvement in spelling ability as evidenced in Natasha's results in the South Australian Spelling Test, the PRETOS test and in the Think Aloud - Dictation/Proof Reading task where her thinking was observed. On several occasions she was seen to work through her previous misconceptions eg her initial spelling of the word "bike" as "bick" before reasoning through and correcting it.

#### **Summary - Natasha (Year 5/6 R)**

Natasha continued to dislike the task of writing and claimed that she found spelling hard "because it is boring but I like going to word study lessons." Despite this, there appeared to be a real improvement in her spelling ability in isolation and in context and in proof reading. Rather than being a dependent speller with a some what "no care" attitude, she had become far more independent through the use of a repertoire of preferred strategies ( sounding and looking to see if the word is right). She seemed to be using the sounding strategy more effectively and had supplemented this with a visual strategy which she had hitherto not used. Perhaps this could account for her remark that reading had helped her spelling. It is also believed that her use of these strategies was enhanced by her ability to use them metacognitively.

The removal of some of her misconceptions about the English spelling system and phonemic awareness training seemed to have filled in the gaps in Natasha's learning and allowed her to progress. In Natasha's case, it is considered that the intervention was effective. This statement

could be supported by Natasha, her mother, her Class Teacher and her Support Teacher.

### 9.23 CASE STUDY (positive instance) - Belinda - Year 5/6 R

Before the Intervention Belinda was considered to be a poor reader and a poor speller

Table 5

#### Poor Reader and Poor Speller Year 5/6R - Belinda

Chr. Age	TORCH	Spell. Age	Spell .Age	PRETOS	PRETOS
Mar	Mar	Mar	Nov	Mar	Nov
11.5 years	26 (PR)	7.6 years	9.5 years	10 (PR)	21 (PR)

Belinda was in the same spelling group as Natasha, the lowest. Belinda was old for her class and had problems right across the board in English. Belinda had many misconceptions in her learning about spelling particularly in relation to the vowels and she had extreme phonemic awareness difficulties. In single syllable words she left out or added consonants.

#### Attitude -Belinda (Year 5/6 R)

Refer to Questionnaires (Appendix C), Interviews (Appendix D) and Spelling in Expressive Writing Assessments (Appendix I)

#### **Development of a Spelling Conscience**

Belinda felt that it was important to have correct spelling in the final drafts of writing because she considered that work wouldn't be published unless it was accurate. She also felt that it was important to be able to spell accurately later in life, particularly if the person was a "story writer".

#### **Confidence in Ability to Spell**

Both before and after the intervention, Belinda continued to have little confidence in her own ability to spell. Her big concern was that although she learnt her spelling she could not remember how to spell them for the spelling test. Before the intervention, she commented that

when she had a spelling marked wrong she felt "like somebody has a candle lit and it's burning my throat". However, she stated that her spelling had improved during the intervention period. She considered that she was getting more words right in the spelling test; she knew how to use vowels better; and that story and letter writing had become easier.

### **Enjoyment in Writing, Interest in Words and Willingness to Experiment**

Belinda commented that she would enjoy writing stories more if she could spell better. She stated that she would then be able to write about "weird and interesting things". Her writing certainly demonstrated the fact that she was willing to have-a-go at more difficult words ('imagination, pavilion'). However, unless assisted, she did not persevere until they were correct. Even though she stated that she would write about interesting things, generally she wrote very simply.

### **Skills /Procedures - Belinda (Year 5/6 R)**

**Student's Spelling Ability in Isolation** (South Australian Spelling Test - Quantitative Data Analysis) Refer to Table 5.

According to the pre and post test results on South Australian Spelling Test (Westwood, 1993), Belinda gained 1.9 years in a period of 0.7 year. Before the intervention, it is believed that she was at Henderson's (1985) early within-word pattern stage of spelling development. She appeared to have difficulties with short and long vowels and with vowel diphthongs in single syllable words. Many confusions were evident - 'van/ven, plan/plean, sit/seat, beg/beag, float/floot'. She appeared to have extreme difficulties with phonemic awareness. This was evidenced in multi syllable words. Many of Belinda's attempts did not even look like words - 'surplus/serpes, equally/ekurly'.

After the intervention, in the post test, all single syllable words except one were spelt correctly. Although she was unable to spell any of the multi syllable words her attempts were close approximations - 'surplus/serplus, equally/equwly'.

As Belinda stated in the interview, she had a better understanding and use of vowels.

### **Student's Use of Spelling Skills /Procedures in Isolation and in Context (Qualitative Data Gathering Techniques)**

Refer to Informal Spelling Inventory (Appendix E), Think - Alouds - Dictation / Proof Reading Assessment (Appendix G), Motoring of Spelling in Expressive Writing (Appendix I), Monitoring of Proof Reading (Appendix K), South Australian Spelling Test (Appendix V) and PRETOS Test (Appendix Y).

On the PRETOS test (Croft, Gilmore, Reid & Jackson, 1981) which primarily assesses the students' ability to discriminate between misspelt words and correctly spelt words in context, Belinda achieved a percentile rank of 10 on the pre test and a percentile rank of 21 on the post test on the production task (correcting the spelling mistakes). On the pre test of the recognition task, she achieved a percentile rank of 6 and on the post test she achieved a percentile rank of 17.

It was noted, in study one, that the ability of students to perform on the PRETOS proof reading task seemed to be greatly influenced by their reading ability. Since Belinda was identified as a poor reader (She scored a percentile rank of 26 on the Torch comprehension test) and since the PRETOS task involves reading for understanding, this post test result should be regarded as an achievement for her. Her corrections tended to indicate that she had transferred what she had learnt about vowels and rules for adding endings from word study lessons into other situations. She was able to correct the following mistakes - 'smileing, pleanty, gardern, beech'.

This ability to transfer and use what she had learnt was also evident in structured proof reading tasks during the intervention period. In one of these tasks in August, Belinda demonstrated that she was capable of identifying and correcting 10% of the errors. This had increased to a correction rate of 30% on the September task. On this last task, she demonstrated the ability to understand and use the rules for adding 'ing'. She was able to correct the following misspellings - 'wining, facing'. She also demonstrated an understanding of homophones.

In March, Belinda demonstrated the ability to write 165 words at an accuracy level of 83.6%. Short vowel confusions were evident in this piece

of writing - 'trick/treack, pressed/preased'. She seemed unaware of rules for adding endings - 'bigger/biger'. Confusions with consonant digraphs were evident - 'snuck/snuk, teasing/teashing'. In June, she wrote a short recount of 79 words at an accuracy level of 92.4%. In this piece of writing, there was only one short vowel confusion - 'ticket/teket'. Her attempt at the word 'pavilion/pervilion' was reasonable. For the Queensland Year 6 Literacy Test in September (described earlier) Belinda wrote a simple text of 112 words at an accuracy level of 92.8 %. In this piece of writing, there were no short vowel confusions but on three out of four occasions, she did not remember to use the rules for adding endings.

The above data tends to indicate that Belinda improved in her spelling ability during the intervention period. This improvement was evident in spelling in isolation and in context. The data also indicates that Belinda improved in her ability to proof read. This can be said for structured tasks. However, although she demonstrated that she knew what proof reading was and was able to go through the motions of carefully reading each word, she on several occasions failed to correct her misspellings unless directed to do so. There is much evidence to support the fact that she was able to transfer what she had been taught to a variety of situations.

### **Strategies - Belinda (Year 5/6 R)**

Refer to Informal Spelling Inventory (Appendix E) , Think-Alouds - Dictation / Proof Reading Assessment (Appendix G) and Motoring of Spelling in Expressive Writing (Appendix I) and South Australian Spelling Test (Appendix V).

After the intervention, it is believed that Belinda was better able to use the strategy of 'chunking' - listening to the sounds in words and writing letters for those sounds. This is evidenced in her improved attempts at multi syllable words, which hitherto had not even looked like English words. When asked what strategies she used, she mentioned 'sounding out' but seemed more intent on telling the researcher about her use of vowels and 'thinking about rules' (one of the McLert strategies).

Although, Belinda demonstrated the knowledge and ability to use proof reading strategies in structured situations, as noted earlier, she failed to use these strategies with her own writing tasks. It is believed that she

found it difficult to see her own errors. However in the final Think Aloud - Dictation/Proof Reading task, she did on one occasion appear to monitor her spelling as she wrote. She wrote the word 'road' very slowly; appeared to think for a while; rubbed it out and then wrote the correct word - 'rode'. It would seem that Belinda had begun to really think about what she was writing.

### **Knowledge - Belinda (Year 5/6 R)**

Refer to Questionnaire (Appendix C) and Interview (Appendix D).

It would seem that after the intervention Belinda had a far greater knowledge of the English spelling system and that this knowledge was far from being inert. She had worked through many misconceptions and was using what she had learned in a variety of situations.

Although she did not have knowledge of a variety of strategies to assist with spelling. Those that she did have - 'chunking' and 'thinking about rules' she was using with an increased degree of efficiency. As discussed previously, she had knowledge of proof reading strategies and even told what she would do during writing - "I spell it how I think it's spelt. I put a circle around it and go back when I've finished." However, there was little evidence that she used this strategy in her own writing unless prompted to do so.

### **Summary - Belinda (Year 5/6 R)**

Before the intervention, Belinda had many misconceptions. As with other students with similar difficulties (Refer to Appendix U, Anecdotal records 54 and 64.), Belinda was given the time to discuss and work through those misconceptions during word study time. During the post intervention interview, Belinda spoke about how she felt more comfortable about using vowels and adding endings. These had been areas of focus for her group. This improvement was evident in a variety of situations.

It is hypothesised that Belinda could not see the errors in her own work. It seemed that she was not aware of the common letter sequences in the English language. This difficulty coupled with significant phonemic

awareness difficulties made spelling very difficult for her. It is believed that her improvement stemmed directly from what she had been taught.

### 9.24 CASE STUDY (negative instance) - Louise - Year 5/6 R

Before the Intervention Louise was considered to be an average reader and an average speller. According to the South Australian Spelling Test (Westwood, 1993), Louise did not make the required gain of 0.7 year during the intervention period.

Table 6

#### Average Reader and Average Speller Year 5/6R - Louise

Chr. Age	TORCH	Spell. Age	Spell .Age	PRETOS	PRETOS
Mar	Mar	Mar	Nov	Mar	Nov
10.3 years	71 (PR)	10.7 years	10.9 years	86 (PR)	76 (PR)

Where Natasha and Belinda were in Year Six, Louise was in Year Five of this composite class. Louise was in the second highest group. The group was encouraged to use a variety of strategies including meaning and visual strategies rather than just chunking strategies. They were led to discover that in the English spelling system a sequence of letters can have different sounds and that a sound can be spelt in a variety of ways. Once again the need for good articulation was stressed. Other areas of focus included:- homophones, suffixes, prefixes, rules for adding endings and the soft 'g' and 'c'.

#### Attitude - Louise (Year 5/6 R)

Refer to Questionnaires (Appendix C), Interviews (Appendix D) and Spelling in Expressive Writing Assessments (Appendix I)

#### **Development of a Spelling Conscience**

Both before and after the intervention, Louise believed that it was necessary to be able to spell correctly. She commented that accurate spelling would be needed for exams and assignments and that spelling was 'part of life'. After the intervention, she remarked that it was permissible to have spelling mistakes in first drafts of writing since these were "rough copies" and that words should not be misspelt in any work that was to be made public.

### **Confidence in Ability to Spell**

Both before and after the intervention, Louise tended to be noncommittal about her ability as a speller. She responded with the following comments - "Sort of. Sometimes I practise. Sometimes I don't." Her feelings about her spelling ability seemed to be very much related to her results on the spelling test for the week. For her 18/20 was considered not so good.

When asked whether her spelling ability had improved during the year, she responded similarly. She considered that at the beginning of the year she always learned her spelling; that in the middle of the year she had dropped back and at the end she had been trying to catch up. She did state, in the final interview, that she believed her spelling had improved in her projects, her writing pieces, her stories and her poems.

### **Enjoyment in Writing, Interest in Words and Willingness to Experiment**

Louise felt that being able to spell better would enable her to be able to write more interesting words. Examples of her writing indicate that she was willing to have-a-go at writing those interesting words and that her attempts were close approximations - 'luxurious/luxuries' or were correctly spelled - 'conscience' and 'Each day was different and magical.' Her mistakes point to an area of need for her group - suffixes.

### **Skills /Procedures - Louise (Year 5/6 R)**

**Student's Spelling Ability in Isolation** (South Australian Spelling Test - Quantitative Data Analysis) Refer to Table 6.

According to the pre and post test results on South Australian Spelling Test (Westwood, 1993), Louise gained 0.2 year in a period of 0.7 year. Before the intervention it is believed that she was at Henderson's (1985) mid syllable juncture stage of spelling development. Both before and after the intervention, she appeared to have very few difficulties with short and long vowels in single syllable words except for homophones. In both the pre and post tests, Louise attempted to spell only ten of the multi syllable words. The majority of her attempts with multi syllable words on



the pre test did not have the correct number of syllables - 'permanent/perment' or lacked letters 'sufficient/sefenent'. In the post test she spelt one of the multi syllable words correctly - 'equally'; others were close approximations - 'especially/espeially, 'enthusiastic/entuiastic'. However, instead of the words being close approximations phonetically they appeared to be close approximations visually. It is hypothesised, that as with James in the initial study, she may have been using predominantly visual strategies to assist with spelling and this may have been inadequate when used alone with unfamiliar words. Note that as with James she was able to spell a variety of multi syllable words in her own writing - 'conscience, weightlessness, magical.'

It should also be noted that although Louise did not make the predicted gain in spelling ability, according to the South Australian spelling test (Westwood, 1993), her spelling age was 0.4 year above her chronological age for the pre test and was only 0.1 year behind for the post test.

### **Student's Use of Spelling Skills /Procedures in Isolation and in Context (Qualitative Data Gathering Techniques)**

Refer to Informal Spelling Inventory (Appendix E), Think - Alouds - Dictation / Proof Reading Assessment (Appendix G), Motoring of Spelling in Expressive Writing (Appendix I), Monitoring of Proof Reading (Appendix K), South Australian Spelling Test (Appendix V) and PRETOS Test (Appendix Y).

On the PRETOS test (Croft, Gilmore, Reid & Jackson, 1981) which primarily assesses the students' ability to discriminate between misspelt words and correctly spelt words in context, Louise achieved a percentile rank of 86 on the pre test and a percentile rank of 76 on the post test of the production task (correcting the spelling mistakes). On the pre test of the recognition task (identifying the mistakes) she achieved a percentile rank of 77 and on the post test she achieved a percentile rank of 71. When carefully examining, Louise's work to find a possible reason for this loss, it was found that her actual raw score had increased from 35 to 36 during the intervention period.

It was noted, in study one, that the ability of students to perform on the PRETOS proof reading task seemed to be greatly influenced by their

reading ability. Louise was identified as an average reader (She scored a percentile rank of 71 on the Torch comprehension test). Results on the pre and post PRETOS tests would tend to indicate that her ability to proof read could be regarded as average according to this test.

In the structured proof reading task in August, Louise identified and corrected 40% of the errors. However, on the September task although she identified 30% of the errors she corrected 20% of them. A recheck of Louise's proof reading ability in October demonstrated that she was capable of more. On this task she identified and corrected 60% of the errors. It could be that Louise's spelling ability fluctuates as she explained in the interview. She explained that at one stage during the year she felt that she had "dropped back". On the other hand, it could be that it was extremely difficult to control the vocabulary in the structured proof reading tasks.

In March, Louise demonstrated the ability to write a fantasy story of 153 words at an accuracy level of 96.7%. In June, she wrote a short recount of 88 words at an accuracy level of 94.3 %. Interestingly, Louise's spelling approximations 'looked' right rather than being phonetically right - 'cordial/coridal, dedication/detiction'. As a Year Five student, Louise did not do the Year 6 test. In its place a recount written around the same time was examined. Louise wrote 119 words at an accuracy level of 95.7%. She had identified three of her five mistakes but had not corrected them.

The above data tends to indicate that Louise may not have improved in her spelling ability during the intervention period. It would also seem that her spelling ability may have fluctuated during this period. However, it is also believed that there was no cause for concern about her spelling. It would seem that she has reached a stage in spelling development (transitional). The Education Department of Western Australia (1994) states that it takes students a long time to pass through this particular stage.

### **Strategies - Louise (Year 5/6 R)**

Refer to Informal Spelling Inventory (Appendix E) , Think-Alouds - Dictation / Proof Reading Assessment (Appendix G) and Motoring of Spelling in Expressive Writing (Appendix K) and South Australian Spelling Test (Appendix V).

As hypothesised, it would seem that after the intervention, Louise's preferred spelling strategies seemed to be visual. Her strategies included:- "I write on a piece of paper how I think it is spelt. I write it about three or four different ways and then I choose the one that looks right." After the intervention she remarked that she loved reading and that she believed that this helped her with her spelling. Interestingly she stated that for her spelling was natural.

Before the intervention, Louise wrote that she did not know what proof reading was. After the intervention, she was able to explain what it was and in the final Think Aloud Dictation/Proof Reading task, she demonstrated that she was able to do it by carefully checking one word at a time. However, although she was able to identify one of her three misspellings she failed to correct it. As with Natasha, from this phase of the study, and Soakimi and Samantha, from the initial study, Louise seemed to monitor her own spelling as she wrote. In the first instance she wrote 'caught' as 'caughth'; rubbed it out and corrected it. Later she explained to the researcher that she is so used to writing 'th'.

### **Knowledge - Louise (Year 5/6 R)**

Refer to Questionnaire (Appendix C) and Interview (Appendix D).

An area in which Louise's knowledge increased was with proof reading. Before the intervention, she remarked that she did not know what proof reading was. After the intervention, she was able to explain what proof reading was and demonstrated the use of it in structured proof reading tasks and in her own writing as she wrote.

Her knowledge of spelling strategies did not appear to increase as a result of the intervention. She stated before and after the intervention that she used predominantly visual strategies.

### **Summary - Louise (Year 5/6 R)**

It would appear from the data that Louise's spelling ability did not improve during the intervention. On the other hand Louise did not appear to be a student at risk with respect to spelling. In all aspects of her

spelling in isolation and in context she continued to achieve at a level commensurate with her age level.

She continued to enjoy writing and her writing showed her willingness to experiment with and often succeed in spelling comparatively difficult multi syllable words - 'conscience'. It seemed that Louise was a visual learner who considered that spelling involved seeing (reading) and doing (writing). She could not be definite in stating whether she had improved or not and felt that she may have gone backwards during the middle of the year because of lack of effort on her part.

While this may have been so. It is believed that her spelling ability may have reached a plateau. The Education Department of Western Australian (1994) concurs that the transitional phase is a critical phase through which students often pass slowly. In order to progress beyond this point, Louise, would need to be encouraged to use phonetic and meaning strategies as well as visual strategies.

#### 9.25 YEAR 6 P.

##### Class Context

In Mrs P's class, all of the students received direct instruction with relation to each of the spelling strategies (to learn words, to attempt the spelling of unfamiliar words in writing and in proof reading). In the initial stages, this was done in the form of demonstration lessons by the Support Teacher. However, the class as a whole were well behind in spelling. Eleven of the twenty nine students were placed in the lowest group. In this group, excluding Jillian, a special needs student, the differences between spelling age and chronological age ranged from 1.6 years to 4.3 years behind. Because of the needs of this particular class, much time was spent in developing a sound phonetic strategy rather than encouraging students to use a variety of strategies.

There was a whole class focus on the importance of accurate spelling in final drafts of writing. The big focus was on encouraging the students to develop a spelling conscience and in becoming more independent. Before, the intervention, the boys in particular, did not

know what proof reading was and were heavily dependent upon parents or the teacher to do the correcting. There was also a whole class focus on building up a sound knowledge base about the English spelling system eg the English spelling system is regular (sound, letter sequence and meaning levels). However, because of the particular needs of this class the emphasis was on building up early grapho phonic knowledge - vowels, consonants, consonant blends, consonant digraphs and syllables.

Because of the particular composition of this class, nineteen boys and ten girls and because of the social and emotional needs as well as academic needs of the class, Mrs P found it difficult to do group work. Much work would have been required in teaching co operative group skills if the aim of the research for word study sessions was to be accomplished. What happened in word study sessions had to be altered to suit the needs of this particular class. The lower spelling group was split into two smaller groups. In word study lessons (two times per week), one of the lower spelling groups would work with the Support Teacher. At the beginning of word study sessions, the purpose of the activity was always explained and wherever possible this group of students worked co operatively on spelling games devised to meet the particular needs (adjusted according to what was found in writing samples). The remainder of the students worked with the Class Teacher according to class needs but the type of instruction was generally direct instruction. (Refer to teacher questionnaire.)

### **Spelling Ability in Isolation - South Australian Spelling Test - Year 6 P.**

An examination of the mean of the spelling ages in the March pretest (9.8 years) and the mean of the spelling ages in the November post test (10.7 years) indicates that the intervention might have been effective. Even when the time factor (0.7 year) was taken into account and the mean for the spelling ages in the November post test was compared with the mean for the predicted spelling ages (10.5 years) it appeared that the intervention might have been effective (Refer to Figure 7). Since the obtained value of the F-statistic (Refer to Figure 7) has a p-value (0.0296) lower than the p-value (0.05) specified in the null hypothesis, the researcher can declare that the difference in the means was statistically significant, and the null hypothesis can be rejected. Subsequently it can be

stated that the intervention was effective in improving the students' spelling ability (in isolation).

### SPELLING ABILITY IN ISOLATION (SOUTH AUSTRALIAN SPELLING TEST) - YEAR 6 P.

ANOVA Table for Compact Variable PRED/ACT SA

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Subject	28	12.017	4.390		
Category for Compact Vari...	1	.560	.560	5.255	.0296
Category for Compact Vari...	28	2.985	.107		

Reliability Estimates - All Treatments: .972; Single Treatment: .946

Means Table for Compact Variable PRED/ACT SA

Effect: Category for Compact Variable PRED/ACT SA

	Count	Mean	Std. Dev.	Std. Err.
Pred Sp Age Nov	29	10.490	.493	.277
Spell Age Nov	29	10.636	.506	.280

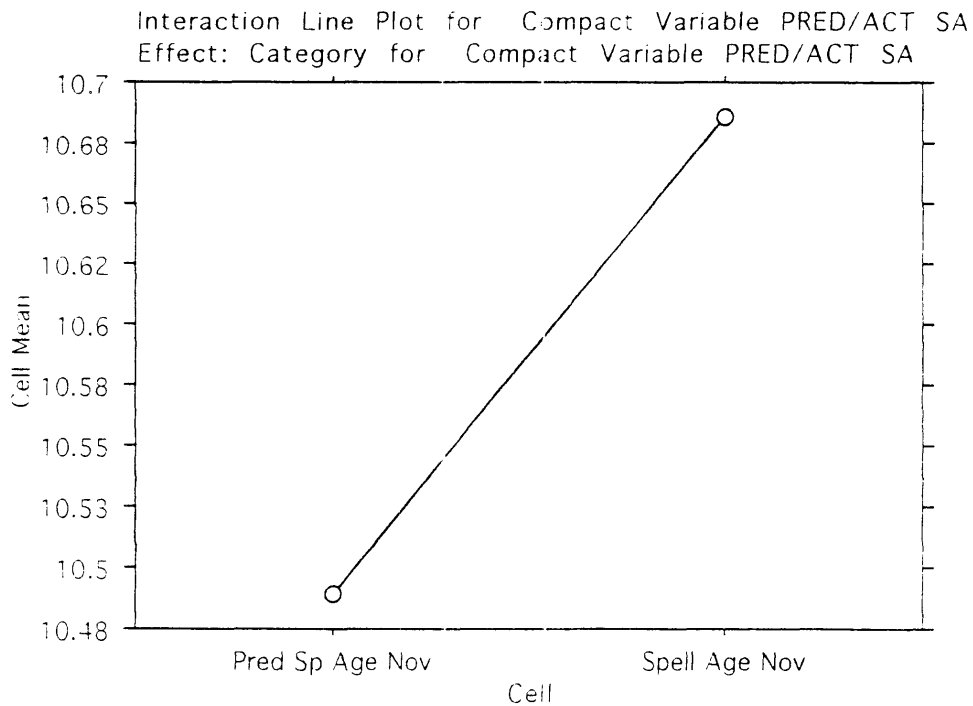


Figure 7 ANOVA TABLE - SPELLING ABILITY YEAR 6 P

A closer examination of data from the South Australian Spelling Test (Westwood, 1993) revealed that although all students appeared to make gains in spelling ability in isolation, according to the test, seven students did not make the predicted gain of 0.7 year in the interval between the pre and post tests. However, all of the students (eleven) identified as very poor spellers, except Elliot and Ashley, made the expected gain. Within the group of very poor spellers the gains ranged between 0.7 year to 1.6 years. Those identified as good readers but poor spellers (but not in the very poor spellers' group) Amanda and Sally, gained 2.0 years and 1.0 years respectively. The greatest gain in the class was that achieved by Amanda. It should also be noted that one student, Chris, who was identified as a good speller before the intervention, may appear not to have gained because he achieved the highest possible score in the test in both pre and post test situations. It should also be pointed out that before the intervention it was considered that the class, as a whole, were behind with respect to spelling. In March, their mean chronological age was 10.871 years and their mean spelling age was 9.836 years.

**Proof Reading Ability - PRETOS - Proof Reading Test of Spelling - Year 6 P.**

An examination of the mean of production scores (percentile rank, PR) in the March pretest (40.86) and the mean of the production scores (percentile rank, PR) in the November post test (42.89) indicates that the intervention might have been effective. However, since the obtained value of the F-statistic has a p-value greater than the p-value (0.05) specified in the null hypothesis, the researcher cannot declare that the difference in the means was statistically significant, and the null hypothesis cannot be rejected. Subsequently it cannot be stated that the intervention was effective in improving the students' ability to discriminate between misspelt words and correctly spelt words in context.

### **Attitude - Year 6 P**

Refer to Student Questionnaires (Appendix C) , Interviews (Appendix D) and Teacher Questionnaire (Appendix CC).

### **Development of Spelling Conscience**

All students in the class commented on the importance of being able to spell accurately when they leave school. As with the students in 5/6R the majority of the answers related to assignments in secondary school, employment as an adult and job applications.

All of the students in the class believed that it was important for them to strive for accuracy in final drafts of writing. A large majority referred to the need for others to understand what was written. Many answers referred to the fact that the writing was being made public and several students' answers referred to the embarrassment felt when work contained wrong spelling.

Scott - "You'll look like a fool."

Emily - "If someone is reading it, it (spelling mistake) will be very noticeable."

Michelle - "People will say you are not a good speller."

In the final teacher questionnaire, Mrs P remarked that she considered that the majority of students in her class had a more developed spelling conscience. She believed that some children made a more conscious effort in the first drafts of writing. However, she also commented that many students in her class did not have a good work ethic no matter what the subject.

### **Confidence in Ability to Spell**

All except five of the students (Chris, Jillian, Emily, Brenton and Ciaran) believed that their spelling had improved during the year. Chris achieved the highest possible score in the test in both pre and post test situations. Jillian is a special needs student who actually did make the required gain of 0.7 year. The other students, Emily, Brenton and Ciaran made more than the required gain. According to the pre and post results



on the South Australian Spelling test, Emily gained 1.0 year; Brenton gained 1.2 years and Ciaran gained 1.4 years during the 0.7 year period. Emily commented that when she was younger she was much better. Brenton stated that he hadn't been doing any better. Ciaran felt that he had spelt the same since grade five. However, the class teacher noted in the Class Teacher Questionnaire (Appendix CC) that she had seen an improvement in Jillian's work. She also noted that Ciaran's work was much easier to read and that Brenton was writing well. She believed that the class as a whole had begun to write more and faster in a given length of time. Furthermore, she believed that the great majority of students were not as likely to spell a four syllable word as a two syllable word. This comment pertained particularly to Brenton and Ciaran. It was because of the fact that Ciaran's perception of his spelling ability differed from his teacher's perception and from the results on a variety of assessments that he was chosen for a case study.

The majority of the students in the class believed that their spelling had improved. Comments on the reasons why varied. However, many of the comments referred to getting words right on the weekly spelling test.

Shauna - "I'm more confident now."

Jay - "I get about 87% right." (Jay was referring to a word count of his writing.)

Amanda - "Because I read a lot and I recognise the words when I spell them."

Nicholas - "Because I'm trying harder all the time."

Daniel - "Because I get help from the remedial teacher."

Sarah - "Because I get help with my reading and spelling."

Sam - "Because I get two or three more right than the week before."

Elliroma - "Because I'm getting better marks on my spelling test."

Brett - "Because I learn them more."

Scott - "Because I'm getting onto long words like 'contemptuous'."

David - "When I learn them I can improve."

Dietrich - "Because my marks are going up."

## Enjoyment in Writing

The Class Teacher commented in the teacher questionnaire (Appendix CC) that students on the whole approached the task of writing more easily and were generally writing more in a given length of time. The great majority believed that they would enjoy writing more if they could spell better. Many responses related to the fact that knowing how to spell would make the writing task easier and, for some, less frustrating.

Rachel - "Because I would not have to go back and try to find the word in the dictionary."

Dietrich - "Because I wouldn't get teased at home."

David - "Because I wouldn't have to worry about the words."

Cassady - "Because you could use really big words."

Brett - "Because when you can't spell it takes a lot more time."

Kelly - "Because you don't have to stop to remember how to spell it."

John - "Because it will help me to explain things better and not to avoid words that I don't know how to spell."

Scott - "It would be more fun."

Brett - "Because people wouldn't think I was a bad speller."

Shauna - "It teaches people how to spell - little people, not only me."

Sam - "I like reading and making up my own stories."

Ellirioma, Emily and Amanda commented that they already like writing stories. However, for both Nicholas and Elliot in the group of very poor spellers, story writing involving spelling appeared to be a difficult task.

**Knowledge of Strategies - Year 6 P** Refer to Student Questionnaires (Appendix C), Interviews (Appendix D), Anecdotal Records (Appendix U) and Teacher Questionnaire (Appendix CC).

Before the intervention, the students in the class expressed the knowledge of the following strategies :- look in the dictionary; use another word; ask someone else; sound out; ask the teacher; think back to when I have learnt them and break it up into small words. However, the great majority stated that they mainly looked in the dictionary.

After the intervention, the knowledge of possible strategies to assist with unknown words had increased. The students expressed that they used or would tell others to use a variety of strategies including:- sound out into syllables; split it up; sound out and see if the word looks right; look into my mind and think; write it three ways; skip it and then come back to it; find words within words. The remarks tend to indicate that students were beginning to use visual (see if it looks right) as well as auditory (sound out) strategies. However, many students commented that their main strategy continued to be referring to the dictionary. Many stated that they continued to use the diversionary tactic of using a similar word that they could spell.

Rachel's response seems to embody the class teachers aim for the students to become less dependent on the dictionary in the first drafts of writing. - "I write what I think; circle it and come back to it after I've written my story because sometimes you lose your idea when you're trying to find something in the dictionary."

Mrs P stated in the final class teacher questionnaire, that she felt that the intervention had made a difference to the students' awareness of strategies. This awareness of strategies was also evident in the comments made by the students.

### **Knowledge of Proof Reading**

Refer to Student Questionnaires (Appendix C), Interviews (Appendix D), Anecdotal Records (Appendix U) and Teacher Questionnaire (Appendix CC).

Although it cannot be specifically stated that the intervention itself was effective in improving the students' ability to discriminate between misspelt words and correctly spelt words in context, the researcher believes that the intervention did make a difference in that the students in this class became more aware of what proof reading was and the need to use it as a natural part of the writing process. It is also believed that for the majority of students there was a desire to become independent in correcting their own work.

Before the intervention, the majority of the students in this class did not know what proof reading was. Many of the students believed it

was the role of the class teacher and/or parent to correct their work for them. Rick commented that proof reading was having his work signed by his mother or father so that the teacher would know they had read it. Cassidy stated, "I think it is you have proof you read."

After the intervention, the majority of responses indicated that the students were more informed. Chris remarked that proof reading "is definitely necessary to check for mistakes that you've made." Brett stated that a "second time reading" was necessary for him to understand what he had written. Dietrich answered that proof reading was "going through the words one by one." There seemed to be a definite shift in emphasis from proof reading being the responsibility of an adult to one of independence. As Elliot commented, "You need to correct your own work."

Within this class (Year 6P) context, three case studies (Amanda, Ciaran, positive instances, and Jay, a negative instance) are examined. For each case study, data is sorted, analysed and discussed according to the proposed framework (Attitude, Knowledge, Strategies and Skills/Procedures). Summaries for each case study are given.

#### **9.26 CASE STUDY (positive instance) - Amanda - Year 6 P**

Before the Intervention Amanda was considered to be a average/good reader but poor to average speller

Table 7

#### Average to Good Reader but Poor to Average Speller Year 6 P - Amanda

Chr. Age	TORCH	Spell. Age	Spell .Age	PRETOS	PRETOS
Mar	Mar	Mar	Nov	Mar	Nov
10.8 years	90 (PR)	10.0 years	12.0 years	36 (PR)	19 (PR)

Originally Amanda was placed in the second highest spelling group in this class. A major focus for this group was an understanding that a word must have the correct number of syllables. The need for good articulation was stressed. They were led to discover that in the English spelling system a sequence of letters can have different sounds and that a sound can be spelt in a variety of ways. They were encouraged to use a variety of strategies including visual, meaning and phonetic strategies.

Other areas of focus included:- homophones, suffixes, prefixes, rules for adding endings 'ing', the rules for plurals and the soft 'g' and 'c'. However, because of the class composition as explained previously, the teacher did not do a lot of group work and much of the teaching on spelling was done directly to all groups except the lowest spelling groups who worked with the Support Teacher.

It was discovered that the majority of students (all except four students in the highest group) in the class were not using the phonetic strategy accurately; the great majority of the students wrote multi syllable words incorrectly (syllables missing or added). Although other needs were addressed as they arose, much time was spent in encouraging students to pronounce words correctly and in assisting them to develop more efficient phonetic strategies (listening for the number of syllables in words etc).

### **Attitude - Amanda (Year 6 P)**

Refer to Questionnaires (Appendix C), Interviews (Appendix D) and Spelling in Expressive Writing Assessments (Appendix I)

### **Development of a Spelling Conscience**

Both before and after the intervention Amanda felt that there was a need to learn how to spell correctly because what is written "is going to be read by other people" and "correct spelling is necessary when applying for a job."

She felt that it was permissible to made mistakes in first drafts of writing because "you have to check it and then you can do a good draft." The emphasis seemed to be on her taking the responsibility. "Proof reading is checking your work, so as you can hand work in without the teacher having to check it." During the final interview, she commented that she really cared about what she was doing and tried to put her "mind to it if she was given enough time." The Class Teacher would agree with Amanda's comments and stated that Amanda was one of the students who had made a conscious effort in first drafts of writing.

### **Confidence in Ability to Spell**

Both before and after the intervention she was noncommittal about her ability as a speller. Her answers included "sort of, sometimes - Some words I have known for a long time and some words I get completely wrong." She considered that her spelling had improved during the intervention because she could now spell a lot more and harder words than she could spell in the younger grades. However, she felt that she would continue to need assistance with her spelling, "not in day to day work but in projects. It's better to improve than to stay where you are."

### **Enjoyment in Writing, Interest in Words and Willingness to Experiment**

Before the intervention, Amanda stated that she hated writing stories. To the same question in the post intervention questionnaire she wrote "I enjoy writing stories." However, on neither occasion, did she consider that being able to spell better would alter her feelings about writing for the better.

There was ample tangible evidence to suggest that she really did enjoy writing. In July, she wrote a recount of two A4 pages in length. Examples of her ability to write effectively and creatively include - 'We roasted marshmallows and listened to scary stories around the fire. We huddled together in the cold.' In November, she wrote a fantasy story about a Swan Princess of eleven A4 pages in length. She did not have time to proof read this particular story because it had to be handed in for assessment. Amanda was so engrossed in her story that she wanted to continue and was reluctant to pass it into the teacher for a word count. Her writing showed a willingness to experiment with more difficult spelling - 'mysterious, betrothed, celebrate' and a gift in writing creatively - 'steaming with revenge', 'fearsome creature'.

### **Skills /Procedures - Amanda (Year 6 P)**

**Students' Spelling Ability in Isolation** (South Australian Spelling Test - Quantitative Data Analysis) Refer to Table 7.

According to the pre and post test results on South Australian Spelling Test (Westwood, 1993), Amanda gained 2.0 years in a period of

0.7 year. Before the intervention it is believed that she was at Henderson's (1985) early syllable juncture stage of spelling development. She appeared to have difficulties with homophones. None of the multi syllable words were spelt correctly. Amanda seemed to be at an in between stage with respect to the spelling of multi syllable words. Some of her misspellings appeared to be close phonetic approximations - 'mortgage/morgage, leisure/leasure'. Others appeared as if she had either mispronounced or over exaggerated the pronunciation of the word before she spelt it - 'surplus/surplace, orchestra/orcastra'.

After the intervention, all of the homophones were spelt correctly. She demonstrated that she was able to accurately spell six of the multi syllable words. While there remained some examples of what seemed to be over exaggeration of the pronunciation - 'orchestra/ochrastrer', the great majority of her misspellings were phonetic approximations.

### **Student's Use of Spelling Skills /Procedures in Isolation and in Context (Qualitative Data Gathering Techniques)**

Refer to Informal Spelling Inventory (Appendix E), Think - Alouds - Dictation / Proof Reading Assessment (Appendix G), Motoring of Spelling in Expressive Writing (Appendix I), Monitoring of Proof Reading (Appendix K), South Australian Spelling Test (Appendix W) and PRETOS Test (Appendix Z).

On the PRETOS test (Croft, Gilmore, Reid & Jackson, 1981) which primarily assesses the students' ability to discriminate between misspelt words and correctly spelt words in context, Amanda achieved a percentile rank of 36 on the pre test and a percentile rank of 19 on the post test of the production task (correcting the spelling mistakes). On the pre test of the recognition task (identifying the mistakes) she achieved a percentile rank of 27 and on the post test she achieved a percentile rank of 22. An examination of the raw scores revealed that Amanda went down 3 points on the production task and the recognition tasks remained the same.

It was noted, in study one, that the ability of students to perform on the PRETOS proof reading task seemed to be greatly influenced by their reading ability. Amanda was identified as a good reader (She scored a percentile rank of 90 on the Torch comprehension test.) but a poor to average speller before the intervention. It could perhaps be assumed that

she should achieve well on the PRETOS test. However, this was not the case. It would seem from the below average results of the PRETOS pre test and the even lower results on the PRETOS post test, that Amanda may access print largely through contextual cues and consequently may ignore some word features. Misspellings that she failed to correct included the following - 'bottom/bottem, everyone/evreyone'. According to Barnes (1989), good contextual readers as opposed to good visual readers can thus be poor or average spellers. The results of the PRETOS test would tend to indicate that Amanda would benefit by being encouraged to use visual cues in reading and visual spelling strategies in the writing process.

Amanda approached the final dictation/proof reading task used to observe Think Alouds (results to be described more fully in the next strategy section) carefully and confidently and was able to identify and correct the one error that she made.

In March, Amanda demonstrated the ability to write 130 words at an accuracy level of 84.6%. In May, she wrote a story of similar length at an accuracy level of 94%. For the Queensland Year 6 Literacy Test (described earlier) in September, students were asked to write an article for a school newsletter. Students were given 25 minutes to respond to the stimulus. (Refer to Anecdotal Record 59). On Amanda's student report, she was placed towards the lower end of the average range for this task. In October, she wrote a recount of 280 words at an accuracy level of 96.4%. Her fantasy story about the Swan Princess contained 688 words and was written at an accuracy level of 96.29%. This was written in November. It should be noted that these word counts were done on first drafts of writing. Spelling mistakes in the final writing example were predominantly phonetically correct - 'mysterious/mysteryous, castle/castel, celebrate/celebrait'.

The above data tends to indicate that Amanda improved in her spelling ability during the intervention period. This improvement was evident in spelling in isolation and in context. It would seem that after the intervention she had moved into Henderson's (1985) mid syllable juncture stage of spelling development. Most of her misspellings in a variety of situations both in isolation and in context across a variety of subject areas were phonetically correct. This would tend to indicate that she would need to be encouraged to use visual and meaning strategies as



well if she was to successfully pass through this stage and to continue to improve.

The data (PRETOS tests) indicates that Amanda may not have improved in her ability to proof read. It would seem that this may be closely related to the fact that she is a good contextual reader rather than a visual reader and in certain situations ignores or overlooks certain features of words.

### **Strategies - Amanda (Year 6 P)**

Refer to Informal Spelling Inventory (Appendix E), Think-Alouds - Dictation / Proof Reading Assessment (Appendix G) and Motoring of Spelling in Expressive Writing (Appendix I) and South Australian Spelling Test (Appendix W).

Even though Amanda achieved poorly on the PRETOS proof reading task, after the intervention, there was evidence that Amanda was not only able to use a repertoire of strategies but to plan, regulate and evaluate her own use of those strategies. This metacognitive ability was evident in the final Think Aloud - Dictation/Proof Reading task.

She seemed to monitor her spelling as she wrote. As she was writing, she wrote 'patient' as 'pationt'. she looked up and laughed. "I think I have got that word wrong. I think I have seen that word before. I think there is an 'i' and an 'e'. I am not sure how to spell it." She then wrote the word correctly and continued. She also demonstrated the ability to correct mistakes during the proof reading stage. Initially she had written 'slammed' as 'slamed'. During proof reading, she wrote three possibilities at the bottom of the page and said that what she had written the first time was not like what she had seen in a book. Subsequently she corrected the spelling.

Before the intervention, Amanda commented that she generally used to "spell out" unfamiliar words or otherwise she would look them up in a dictionary. After the intervention, on the student questionnaire and during the interview, she stated how she used the strategies witnessed during the Think Aloud task. She also commented on other strategies that she used:- "I think if I have ever seen it in a book; I sometimes break it into little words; I write them down." Interestingly,

she stated that for her to improve in her spelling she would need to read harder books. She also felt that reading helped her to be able to spell "because when I go to write a word I recognise it from a book." She also considered that writing also helped her with spelling, because "If I write it a lot I get to know it."

It would seem that, Amanda had become aware of and was already using a variety of strategies other than a solely phonetic strategy. It would also seem that she is aware of the need to use visual cues in reading in order to assist her knowledge of words. Perhaps she needs to be encouraged that she is moving in the right direction.

### **Knowledge - Amanda (Year 6 P)**

Refer to Questionnaire (Appendix C) and Interview (Appendix D).

There was a growth in Amanda's knowledge about spelling strategies. They had increased from the dependent strategy of using a dictionary to a combination of both phonetic and visual strategies. She also demonstrated that this knowledge did not remain inert.

She was aware of proof reading strategies both before and after the intervention. Both before and after the intervention she was aware of the need to become independent in trying to make final drafts of writing as accurate as possible so that "teachers don't have to muck around." However she failed to use this knowledge in a somewhat artificial situation, the PRETOS tests. In the Think Aloud - Dictation/Proof Reading task, she not only demonstrated the use of proof reading strategies but the ability to use them metacognitively.

### **Summary - Amanda (Year 6 P)**

It would seem that the intervention was effective in improving Amanda's spelling ability in isolation and in context across a range of subject areas. It would seem that her creative writing ability was not stifled because of focus on the teaching of spelling.

An initial examination of the data tended to indicate that the teacher's emphasis (though not overall approach) on a phonetic strategy

may have had a detrimental effect on Amanda. Initially it appeared that Amanda may have been developing into one of those good readers but poor to average spellers mentioned in the research of Cooksey, Freebody & Bennett (1990) and Frith (1980) who relied on phonological information when spelling. However, a closer and more careful examination of the data seemed to reveal that she had knowledge of visual as well as phonetic strategies and that she was not only using them but was using them metacognitively. What was needed for Amanda was to reintroduce her to meaning strategies and to encourage her to use a variety of spelling strategies in the writing process. She also needed to be encouraged to use visual cues as well as contextual cues in reading so that a more thorough internalisation of the words' spellings could be achieved. In Amanda's words, "reading helps you to spell because I learn a new word every page."

### 9.2.7 CASE STUDY (positive instance) - Ciaran - Year 6 P

Before the Intervention Ciaran was considered to be a poor reader and a poor speller.

Table 8

#### Poor Reader and Poor Speller Year 6 P - Ciaran

Chr. Age	TORCH	Spell. Age	Spell .Age	PRETOS	PRETOS
Mar	Mar	Mar	Nov	Mar	Nov
10.7 years	18(PR)	8.6 years	10.0 years	19 (PR)	29 (PR)

Ciaran was in the lowest spelling group in his class. Ciaran spoke with an Irish accent. There were eleven students (eight boys and three girls) in this group which was split into two smaller groups for word study. Areas of need included:- short and long vowels, blends, consonant digraphs, plurals, rules for adding endings -"ing" and homophones. Many of the students appeared to have phonemic awareness problems. Many, including Ciaran, tended to leave out the second consonant in a blend in a single syllable word. Students in this group also seemed to be unaware that every syllable in a word had a vowel. It is believed that some of their spelling problems could be as a result of poor articulation.

Ciaran is an interesting case. The data tends to support the beliefs of both the Class Teacher and the Support Teacher that Ciaran's spelling

ability improved during the intervention. However, he is adamant that there was little improvement.

### **Attitude - Ciaran (Year 6 P)**

Refer to Questionnaires (Appendix C), Interviews (Appendix D) and Spelling in Expressive Writing Assessments (Appendix I)

### **Development of a Spelling Conscience**

Both before and after the intervention, Ciaran felt that there was a need to learn how to spell correctly because "other people have to read it (what is written); you won't be able to get a job if you cannot spell; and you need to be able to spell when you are writing an important letter." Interestingly, he made a connection between reading and spelling when he commented, "If you cannot spell you cannot read." Ciaran found both reading and spelling difficult although it could be speculated that he had average to above average ability.

Ciaran considered that it did not matter if spelling was incorrect in first drafts of writing because "it will be changed and corrected" but in final drafts spelling had to be accurate because "it will be read by someone other than you."

### **Confidence in Ability to Spell**

When asked whether he was a good speller or not, Ciaran remarked that he was not sure. When asked if he had improved he commented that he felt as if he was spelling the same as he was in grade five. In fact he considered that he had fallen back. "Last year I could spell 'bibliography' and names of countries." He explained that last year he had received assistance from a remedial teacher who "got us to write out wrong spelling twenty times each and then I would remember them."

Ciaran seemed to place importance on the need to be able to get spelling right in the weekly spelling test. "In a spelling test you will be marked and if you get one wrong it will not be a good score." A perusal of his test book indicated that his highest test result was in March where he scored 21/25 on a test of homophones. Misspellings in March tests

included the following 'English/Einlighis, unfolded/onfolit'. A sizeable proportion of Ciaran's misspellings were inconsistent and not phonetic. At one stage in October, when the Class Teacher was concentrating on listening for the number of syllables in multi syllable words his score had dropped to 4/25. However, a sizeable proportion of his misspellings were phonetic - 'helmet/helmit, traffic/trraffic, atmosphere/atmousfear, distance/distunce'. It would seem that he was more looking at whether his spelling was right or wrong rather than at the quality of his attempt.

### **Enjoyment in Writing, Interest in Words and Willingness to Experiment**

Before the intervention, Ciaran commented that he would enjoy writing more if he could spell better because it would give him joy to be able to make something. He also believed at the time that if he couldn't spell he couldn't write. It should also be noted that his answers on the pre intervention questionnaire were only three to four word responses.

After the intervention, Ciaran commented that he would enjoy writing more if he could spell better because it would take less time to correct, and he felt that writing would give him an opportunity to practise the words. His responses on the post intervention questionnaire had increased to eight to ten words.

Ciaran thought deeply about his religion. In October, he commented that religion provided him with the "opportunity to make progress in writing and I can try to express my feelings while writing." By the end of the intervention he was willing to experiment with the spelling of difficult words - 'stimulates, confident, patiently.' However, he did state that if he didn't know how to spell a word he would "find a word that means the same.'

### **Skills /Procedures - Ciaran (Year 6 P)**

**Student's Spelling Ability in Isolation** (South Australian Spelling Test - Quantitative Data Analysis) Refer to Table 8.

According to the pre and post test results on South Australian Spelling Test (Westwood, 1993), Ciaran gained 1.4 years in a period of 0.7 year. Before the intervention, it is believed that he was at Henderson's

(1985) early within-word pattern stage of spelling development. He appeared to have difficulties with short and long vowels and with vowel diphthongs in single syllable words. Many confusions were evident - 'van/fain, mud/mod, beg/baeg, thin/fairn, chop/caop'. He appeared to have extreme difficulties with phonemic awareness. This was evidenced in multi syllable words as well. Many of Ciaran's attempts were inconsistent and not phonetic - 'signature/seaknger, successful/sakesful, surplus/sirples'.

After the intervention, in the post test, all single syllable words except two were spelt correctly. He was able to spell one of the multi syllable words - 'surplus' and many of his attempts were close approximations - 'signature/signiture, successful/sucesful'.

### **Student's Use of Spelling Skills /Procedures in Isolation and in Context (Qualitative Data Gathering Techniques)**

Refer to Informal Spelling Inventory (Appendix E), Think - Alouds - Dictation / Proof Reading Assessment (Appendix G), Motoring of Spelling in Expressive Writing (Appendix I), Monitoring of Proof Reading (Appendix K), South Australian Spelling Test (Appendix W) and PRETOS Test (Appendix Z).

On the PRETOS test (Croft, Gilmore, Reid & Jackson, 1981) which primarily assesses the students' ability to discriminate between misspelt words and correctly spelt words in context, Ciaran achieved a percentile rank of 19 on the pre test and a percentile rank of 29 on the post test of the production task (correcting the spelling mistakes). On pre test of the recognition task (identifying the mistakes) he achieved a percentile rank of 13 and on the post test he achieved a percentile rank of 20.

It was noted, in study one, that the ability of students to perform on the PRETOS proof reading task seemed to be greatly influenced by their reading ability. Since Ciaran was identified as a poor reader (He scored a percentile rank of 18 on the Torch comprehension test) and since the PRETOS task involves reading for understanding, this post test result should be regarded as an achievement for him. His corrections tended to indicate that he had transferred what he had learnt about vowels and rules for adding endings and about contractions from word study lessons into

other situations. He was able to correct the following mistakes - 'smileing, beech, deal, betwean, can'nt'.

This ability to transfer and use what he had learnt was also evident in the final Think Aloud dictation/proofreading task. In the pre intervention test, he spelt 'rode' as 'roud'. This word was accurately spelt in the post test.

In March, Ciaran demonstrated the ability to write about half an A4 page at an accuracy level of 74%. Many confusions were evident in this piece of writing - 'most/moust, new/now, prevents/pervnits'. In July, he wrote a short account of about 72 words on Albert Einstein at an accuracy level of 87.5%. In this piece of writing, there was one short vowel confusion - 'stuck/stouk' and he consistently omitted the apostrophe in contractions. In September, he wrote a story about a poor pirate of three foolscap pages in length at an accuracy level of 81%. Short vowel confusions remained evident - 'luck/louck, much/mouch' but his attempts at multi syllable words had the correct number of syllables - 'tomorrow/tommorow, favourite/faverote'. In October he wrote a short report on the class's bike trip at an accuracy level of 88%. His attempts at the multi syllable words - 'equipment/equitment, parents/parunts' were reasonable. For the Queensland Year 6 Literacy Test (described earlier) in September, students were asked to write an article for a school newsletter. Students were given 25 minutes to respond to the stimulus. (Refer to Anecdotal Record 59). On his report, Ciaran was placed just outside the average band range. It should also be noted that although Ciaran endeavoured to express himself in a somewhat mature way, in many instances the structure of his sentences was incorrect.

The above data tends to indicate that Ciaran improved in his spelling ability during the intervention period. This improvement was evident in spelling in isolation and in context. The data also indicates that Ciaran improved in his ability to proof read. This can be said for structured tasks. However, although he demonstrated that he knew what proof reading was at the end of the intervention, and was able to go through the motions of carefully reading each word, he on several occasions failed to correct his own mistakes.

### **Strategies - Ciaran (Year 6 P)**

Refer to Informal Spelling Inventory (Appendix E) , Think-Alouds - Dictation / Proof Reading Assessment (Appendix G) and Motoring of Spelling in Expressive Writing (Appendix I) and South Australian Spelling Test (Appendix W).

After the intervention, it is believed that Ciaran was better able to use the strategy of 'chunking' - listening to the sounds in words and writing letters for those sounds. This is evidenced in his improved attempts at multi syllable words, which hitherto had not even looked like English words. When asked what strategies he used, she mentioned "breaking up words" and "finding little words in big words." In the post intervention questionnaire he wrote - "I sound it out; write it down and then look in the dictionary."

Although, Ciaran indicated the knowledge of proof reading strategies in the final questionnaire he failed to use these strategies in his own writing tasks. It is believed that he found it difficult to see his own errors.

### **Knowledge - Ciaran (Year 6 P)**

Refer to Questionnaire (Appendix C) and Interview (Appendix D).

It would seem that after the intervention Ciaran had a far greater knowledge of strategies to assist with spelling and although he may not have been aware of it he was using this knowledge in spelling in isolation and in context. Before the intervention he remarked that when he came across a word that he could not spell he - 'had a go.' His belief that reading and writing were connected, appeared to have been strengthened - "I can look at a word when I am reading and try to spell it in my head."

Before the intervention he believed that proof reading was 'reading a book'. After the intervention, he could state what proof reading was and could go through the motions of checking his work one word at a time, but this was as far as he was able to go.

Before the intervention, he remarked that using a dictionary was hard if you couldn't spell a word in the first place. However, after the



intervention, he stated that a dictionary was useful and would be used many times to help spell a word but that it was not always necessary. He added that "when I am on the computer I can spell something without a dictionary." It is believed that by the end of the intervention, his misspellings could at least be understood (Refer to Class Teacher questionnaire). As a result, he could then successfully use the dictionary or the spell checker on the computer as aids to assist him in his writing.

### **Summary - Ciaran (Year 6 P)**

It is believed that Ciaran's spelling ability improved over the course of the intervention and that this improvement was evident in isolation and in context in a variety of situations. His spelling in context had improved from an accuracy level of 74% to 88% and therefore had not reached the desired level of 95%. However, as his teacher explained, his work was so much easier to read, and as he explained, he could successfully use the spelling checker on the computer.

There had been a substantial increase in Ciaran's knowledge about spelling strategies and proof reading. However it cannot be stated that he knew that he was using the spelling strategies and he failed to use proof reading strategies to correct his own spelling mistakes. It is considered that he perhaps could not "see" the errors.

There was much evidence to support the fact that he was able to transfer what he had been taught to a variety of situations. However, it would have to be stated that Ciaran was not aware of the degree of his improvement, because for him the spelling of a word was either right or wrong. His teachers were able to see the improvement from his misspellings being inconsistent and not phonetic to, in the large majority of instances, being phonetic.

### **9.2.8 CASE STUDY (negative instance) - Jay - Year 6 P**

Before the intervention Jay was considered to be an average reader and an average speller. According to the South Australian Spelling Test (Westwood, 1993), Jay did not make the required gain of 0.7 year during the intervention period.

Table 9

Average Reader and Average Speller Year 6 P - Jay

Chr. Age	TORCH	Spell. Age	Spell .Age	PRETOS	PRETOS
Mar	Mar	Mar	Nov	Mar	Nov
10.9 years	57(PR)	10.5 years	10.9 years	19(PR)	27 (PR)

Jay was in the same spelling group as Amanda. A major focus for this group was an understanding that a word must have the correct number of syllables. The need for good articulation was stressed. They were led to discover that in the English spelling system a sequence of letters can have different sounds and that a sound can be spelt in a variety of ways. They were encouraged to use a variety of strategies including visual, meaning and phonetic strategies. Other areas of focus included:- homophones, suffixes, prefixes, rules for adding endings 'ing', the rules for plurals and the soft 'g' and 'c'.

However, because of the class composition as explained previously, the teacher did not do a lot of group work and much of the teaching on spelling was done directly to all groups except the lowest spelling groups who worked with the support teacher. It was discovered that the majority of students (all except four students in the highest group) in the class were not using the phonetic strategy accurately; the great majority of the students wrote multi syllable words incorrectly (syllables missing or added). Although other needs were addressed as they arose, much time was spent in encouraging students to pronounce words correctly and in assisting them to develop more efficient phonetic strategies (listening for the number of syllables in words etc).

**Attitude - Jay (Year 6 P)**

Refer to Questionnaires (Appendix C), Interviews (Appendix D) and Spelling in Expressive Writing Assessments (Appendix I)

**Development of a Spelling Conscience**

Before the intervention, Jay believed that it was necessary to be able to spell correctly because "correct spelling is necessary when doing exams

and when you need to get a scholarship." In the final questionnaire after the intervention, he simply stated that it was very important.

### **Confidence in Ability to Spell**

Both before and after the intervention, Jay tended to be noncommittal about his ability as a speller. He responded with the following comments - "No and yes. Kind of, because mostly I get 87% right. Because I am good sometimes."

When asked whether his spelling ability had improved during the year, he responded similarly. "Yes, kind of. I didn't really learn them this year." However, on the other hand, he also remarked that he had tried to study harder and had tried to make an effort. It would seem that at times his conscience had been pricked. When asked how he felt when his spellings were marked wrong he stated that he felt "ashamed" and wished that he could do it again. He also commented that he needed to be "pushed" in order to learn.

### **Enjoyment in Writing, Interest in Words and Willingness to Experiment**

Before the intervention, Jay considered that he would enjoy writing stories more if he could spell better because his work "would look better" and he "wouldn't have to waste time looking up a dictionary." After the intervention, he considered that being able to spell better would make writing "easier and less frustrating." Examples of his writing tend to indicate that he was not willing to have-a-go at writing interesting, more difficult to spell words. In fact, in the final interview he stated that if he could not spell a word he used an alternative. He added, "My sister taught me that." Examples of writing in his books seemed to indicate that he was not a keen writer. There were examples of unfinished pieces and even of unfinished sentences.

### **Skills /Procedures - Jay (Year 6 P)**

**Student's Spelling Ability in Isolation** (South Australian Spelling Test - Quantitative Data Analysis) Refer to Table 9.

According to the pre and post test results on South Australian Spelling Test (Westwood, 1993), Jay gained 0.4 year in a period of 0.7 year. Before the intervention, it is believed that he was at Henderson's (1985) early syllable juncture stage of spelling development. Both before and after the intervention, he appeared to have very few difficulties with short and long vowels in single syllable words except for homophones. In the pre test, he was able to spell five of the multi syllable words. In the post test, he was able to spell six of the multi syllable words and he was able to spell the homophones. Before the intervention, some of his misspellings appeared to be phonetically correct - 'exhibition/exabition' others were not phonetic and inconsistent - especially/expeterly, equipped/ecripted, exaggerate/egzaderate'. It would seem that he was at much the same stage as Louise who was not always using a phonetic strategy proficiently. After the intervention, there did not seem to be a visible improvement in his spelling although some of his misspellings perhaps looked more like actual words - 'exaggerate/exagerate, especially/espeshaly'.

Jay did not make the predicted gain in spelling ability, according to the South Australian spelling test (Westwood, 1993). His spelling age was 0.4 year below his chronological age on the pre test and was 0.7 years below on the post test. Jay would need to be monitored carefully since it is believed that he could become a student at risk with respect to spelling. It would seem that he would need a great deal of support if he was to successfully pass through this transitional stage of spelling development.

### **Student's Use of Spelling Skills /Procedures in Isolation and in Context (Qualitative Data Gathering Techniques)**

Refer to Informal Spelling Inventory (Appendix E), Think - Alouds - Dictation / Proof Reading Assessment (Appendix G), Motoring of Spelling in Expressive Writing (Appendix I), Monitoring of Proof Reading (Appendix K), South Australian Spelling Test (Appendix W) and PRETOS Test (Appendix Z).

On the PRETOS test (Croft, Gilmore, Reid & Jackson, 1981) which primarily assesses the students' ability to discriminate between misspelt words and correctly spelt words in context, Jay achieved a percentile rank of 19 on the pre test and a percentile rank of 27 on the post test of the production task (correcting the spelling mistakes). On the pre test of the

recognition task (identifying the mistakes) he achieved a percentile rank of 22 and on the post test he achieved a percentile rank of 26.

It was noted, in study one, that the ability of students to perform on the PRETOS proof reading task seemed to be greatly influenced by their reading ability. Jay was identified as an average reader. He scored a percentile rank of 58 on the Torch comprehension test. Results on the pre and post PRETOS tests would tend to indicate that his ability to proof read could be regarded as below average according to this test. Corrections on the post test task, indicate that he had transferred knowledge about the rules for adding endings. They also seemed to indicate that he was using visual clues in the reading process. Unlike Amanda, who seemed to be using mainly contextual cues in the reading process, Jay was able to identify and correct many of the misspellings that had double letters unnecessarily - 'parades/parrades, melted/meltted' and where letters were reversed - 'everyone/evreyone'. He also demonstrated the visual strategy of writing a word several times.

Examples of Jay's writing included mainly short journal entries of under 30 words in length. In March, he wrote a short journal entry of 25 words in length at an accuracy level of 84%. Although one error was related to poor articulation - 'anything/anythink' other errors seemed to be careless - 'see/se, going/goind'. In July, he wrote a recount of 170 words in length at an accuracy level of 91%. Again some of his errors seemed to be careless - 'some/som, ate/at'. Mistakes with heavy duty words were evident - 'wanted/wated, while/wile' as were confusions with homophones - 'fair/fare, caught/court'. For the Queensland Year 6 Literacy Test (described earlier) in September, students were asked to write an article for a school newsletter. Students were given 25 minutes to respond to the stimulus. (Refer to Appendix U, Anecdotal Record 59). On Jay's student report, he was placed towards the lower end of the average range for this task. In October, he wrote a recount at an accuracy level of 91%. In November, the accuracy level for his story was recorded as 89%.

The above data tends to indicate that Jay may not have improved in his spelling ability during the intervention period. It would also seem that his spelling in context had not yet reached what was regarded as an

acceptable level (95%). It is believed that this may have been due in part to his attitude to spelling and writing in general.

Although his ability to proof read remained at a below average level it had shown improvement and Jay had demonstrated the ability to really look at words in an endeavour to check accuracy. He needed to apply this ability to check his own writing.

### **Strategies - Jay (Year 6 P)**

Refer to Informal Spelling Inventory (Appendix E) , Think-Alouds - Dictation / Proof Reading Assessment (Appendix G) and Motoring of Spelling in Expressive Writing (Appendix I) and South Australian Spelling Test (Appendix W).

Before the intervention, Jay indicated that the strategies he used included - "spelling it in my head; asking someone"; or "looking up the word in a dictionary." After the intervention, during the interview and on the questionnaire, he added two more strategies to his repertoire - "sound it out" and "use a different word. " Although these were the strategies that he voiced he used, his work indicated that he used another one, the visual strategy of writing a word several times to check which one looked right. This was evidenced in the final PRETOS task and in later examples of his writing.

In the final Think Aloud dictation/proof reading task, Jay demonstrated that he knew what proof reading was. He carefully checked each word and remarked that he knew that he had spelt the word 'caught' wrongly but failed to attempt to correct it. He had written 'gazed' as 'agazed' but failed to identify it. It seemed that he had been more perceptive in the structured proof reading task than in the proof reading of his own writing.

### **Knowledge - Jay (Year 6 P)**

Refer to Questionnaire (Appendix C) and Interview (Appendix D).

As mentioned in the strategies section above, it would seem that after the intervention Jay had a greater knowledge of strategies to assist with spelling.

Before the intervention Jay remarked that proof reading was "when you get proof that you have read." After the intervention, he could state what proof reading was "correcting your own work".

### **Summary - Jay (Year 6 P)**

Although Jay had a greater knowledge of strategies to assist with spelling and at least could articulate what proof reading was after the intervention, it is believed that his spelling did not improve in isolation nor in context. It is believed that he remained at the early syllable juncture stage of spelling development. There seemed to be a marginal improvement in his spelling of multi syllable words in isolation. More of his misspellings seemed to be phonetic approximations or closer visual approximations. Because he did not appear to be a keen writer, it was difficult to judge if this improvement was evident in his writing. It was also difficult to say whether he was a visual or an auditory learner. However, there was some evidence that he was capable of using visual clues as opposed to mainly contextual clues in reading.

It believed that Jay may be at risk as a speller. This seemed particularly so because of what was perceived as a somewhat indifferent attitude to spelling and writing. It is noted that the Class Teacher commented in the teacher questionnaire that many students in her class "did not have a good work ethic no matter what the subject." The Education Department of Western Australia (1994) argues that this transitional stage of spelling development is a very critical stage and that students require as much support and explicit teaching as possible in order to progress through it. Jay himself stated that he couldn't learn how to spell by himself because "if I wasn't pushed, I wouldn't learn."

### **9.29 YEAR 7P.**

#### **Spelling Ability in Isolation - South Australian Spelling Test - Year 7P.**

An examination of the mean of the spelling ages in the March pretest (11.9 years) and the mean of the spelling ages in the November post test (12.7 years) indicates that the intervention might have been effective. Even when the time factor (0.7 year) was taken into account and the mean

for the spelling ages in the November post test was compared with the mean for the predicted spelling ages (12.5 years) it appeared that the intervention might have been effective. However, since the obtained value of the F-statistic has a p-value greater than the p-value (0.05) specified in the null hypothesis, the researcher cannot declare that the difference in the means was statistically significant, and the null hypothesis cannot be rejected. Subsequently it cannot be stated that the intervention was effective in improving the students' spelling ability (in isolation).

A closer examination of data from the South Australian Spelling Test (Westwood, 1993) revealed that eleven of the students, according to this test, appeared not to have made the predicted gain of 0.7 year in the interval between the pre and post tests. In fact, according to the post test data, five of the students went backwards. The greatest gains in the class were achieved by Michael and Craig who were identified as average readers and spellers in the pre tests. They made gains of 3.3 years and 2.5 years respectively. It should also be noted that four of the students, identified as good spellers before the intervention, may appear not to have gained because they achieved the highest possible score in the test in both pre and post test situations

#### **Proof Reading Ability - PRETOS - Proof Reading Test of Spelling - Year 7 P.**

An examination of the mean of production scores (percentile rank, PR) in the March pretest (55.1) and the mean of the production scores (percentile rank, PR) in the November post test (57.8) indicates that the intervention might have been effective. However, since the obtained value of the F-statistic has a p-value greater than the p-value (0.05) specified in the null hypothesis, the researcher cannot declare that the difference in the means was statistically significant, and the null hypothesis cannot be rejected. Subsequently it cannot be stated that the intervention was effective in improving the students' ability to discriminate between misspelt words and correctly spelt words in context.



It is believed that these test results appear erratic and therefore little credence can be placed in them. Unfortunately, not enough other data (examples of writing, proof reading and post student questionnaires) was able to be collected to allow the researcher to check the accuracy of the test data. The reasons for the lack of reliability can only be hypothesised. It is speculated that the reasons are complex and perhaps interrelated and may involve any or all of the following:-

- . Class Teacher stress involving both personal (Anecdotal Record 76) and school related issues (Appendix U, Anecdotal Records 78 and 82).
- . Lack of time at the end of the year (Appendix U, Anecdotal Records 4, 72, 74, 75, 76, 80).
- . Over commitment by an enthusiastic teacher (Appendix U, Anecdotal Records 2, 44, 74, 80).
- . Student factors associated with the end of their primary schooling.

Because of the perceived lack of reliability of the data from the post South Australian Spelling Test (1993) and the lack of subsequent data no students from this class were selected for case studies. However the fact that the intervention seemed to be ineffective in improving the spelling ability of the students in this class raised issues that require explanation.

### **9.3 DISCUSSION - EFFECTIVENESS OF THE INTERVENTION**

It has to be stated that the intervention was not effective in improving the spelling ability of students in one of the classes, 7P. While some of the reasons for the ineffectiveness of the intervention in this particular class can be placed on the inability to collect credible post intervention data, it is believed that other possible explanations need to be considered also.

It is hypothesised that the class's attitude to spelling and to school in general may have been a problem. As explained in an earlier section of this chapter, schools were combined to form a new college. In this class, in

their final year of primary schooling, were combined girls from a previously all girls school and boys from a previously all boys school. While the overall attitude to word study was good (Refer to Anecdotal Record 21, 25, 38), students in the lower group seemed, at times, to have the attitude that they were being victimised. As one student commented early in the year - "Did Miss P make a mistake in adding up my test? I thought I was okay at spelling." Refer to Appendix U, Anecdotal Record 43.

It is speculated that as with other classes in the initial phase and final phase of the study, lack of time was a problem. All teachers mentioned that there seemed to be less time in the school day for spelling and writing. Refer to Appendix U, Anecdotal Records 47, 57, 67, 69, 72, 73, 75, 79, 80. This seemed to be even more of a problem with this class. Miss P did not spend the whole day with her own class because one third of the day was spent in rotations. Being in the last year of their primary schooling, the students had to fulfil many leadership obligations and were towards the end of year involved in activities in preparation for their entry into secondary schooling.

Not enough time was able to be devoted to supporting the teachers in the implementation of the intervention. Refer to Appendix U, Anecdotal Records 16, 17, 37, 40, 68, 72, 74, 76, 77, 80. It is believed that perhaps Miss P needed more support than the other teachers. Miss P was a young teacher who seemed to need support in the implementation of the intervention. She needed support in analysing examples of students' work to diagnose areas of need and in grouping students for instruction. She also needed support in building up her own knowledge of the English spelling system. Her comments included - "I was not taught that way when I went to school. Today I learned a lot about the difference between homophones and homonyms..... and then we put the prefix 're' in front of the words and changed the meanings." In the post Class Teacher questionnaire, Miss P commented that she benefited greatly from the support teacher demonstrations but she felt that more time should have been set aside for the Support Teacher and Class Teacher to plan effectively.

It is believed that Miss P was initially very keen to try the approach (Refer to Appendix U, Anecdotal Records 9, 10,) and remained so after the intervention. When asked on the Class Teacher questionnaire whether she would like to be involved in this type of program again she responded with "Absolutely! There are many benefits to such a program. I now feel very strongly about spelling lessons in class. There is not enough accomplished in English lesson time." However, it can only be considered as speculation, but, it is felt that perhaps gaps in her own knowledge about the English spelling system impeded her teaching.

However, the intervention seemed to be effective in improving the spelling ability of students in the other two classes. It is considered that the intervention was perhaps more effective in 5/6 R than in 6P. In Mrs R's class, the mean for the spelling age in the post test was 11.3 years and the highest gain was 3.5 years. In Mrs P's class, the mean spelling age in the post test was 10.7 years and the highest gain was 2.0 years.

The reasons for this believed difference are complex and interrelated. However, it is hypothesised that Mrs R had a group of students whose mean spelling ability (10.4 years) before the intervention was not as low as the mean spelling ability (9.8 years) of the students in Mrs P's class even though the mean chronological age (10.5 years) of the students in Mrs R's 5/6 R class was lower than the mean chronological age (10.9) of students in Mrs P's 6 P class. Mrs R described her class as students who enjoyed learning. On the other hand Mrs P described her class as having many difficult personality and behaviour problems. Mrs R was the teacher involved in the initial phase of the study and early in the second phase of the study Mrs R explained that she felt confident in what she was doing. On the other hand, in the final Class Teacher questionnaire Mrs P explained that she had a pressured year and although she felt she had been sensitised in how to assist students, she considered that she needed more inservicing and more time to reflect.

The intervention seemed to be effective for the great majority of the students in the other two classes not only those identified as poor spellers. In fact, the biggest gain in both the initial and second phases of the study was made by Kathleen a Year Five student in the highest spelling group in Mrs R's 5/6 class. Kathleen made a gain of 3.5 years in the 0.7 year period.

For many of the students in the top group, spelling seemed to be an automatic process. It is considered that the verbalisations by teachers and students may have helped them come to a greater understanding of the English language system and that the direct teaching of spelling strategies fostered an awareness of those strategies which they had been using intuitively.

Another group of students who achieved well were the students who were identified as poor readers and poor spellers. In the lower group in 5/6 R, six of the seven students made the expected gain of 0.7 year. Gains ranged from 0.8 year to 2.0 years. In the lower group in 6 P, nine of the eleven students made the expected gain. Gains ranged from 0.7 year to 1.6 years. The area in which the intervention seemed to be most effective for the groups of poor readers/poor spellers was knowledge of the English spelling system. There was evidence also in the case studies of Belinda and Ciaran that this knowledge did not remain inert but was transferred to knowledge in use in a variety of writing situations. In the groups of poor spellers in Year 6 P, in particular, there was an emphasis on building up early grapho phonic knowledge - vowels, consonants, consonant digraphs etc. There was evidence to indicate that Ciaran had transferred what he had learnt about vowels and rules for adding endings from word study lessons into other situations. Both Ciaran and Belinda, at the end of the intervention, were writing single syllable short and long vowels words correctly and most of their attempts at multi syllable words were closer phonetic approximations.

It is felt that the intervention made a difference to the students' awareness of strategies. In both classes the knowledge of possible strategies to assist with unknown words had increased. The remarks tend to indicate that the majority of students were beginning to use visual (see if it looks right) as well as phonetic (sound out) strategies. However, it would have to be stated that students in the groups of poor readers/poor spellers were perhaps unaware that they were using them. Although Ciaran had a far greater knowledge of strategies to assist with spelling and although he was using this knowledge in spelling in isolation and in context, he did not seem to be aware that he was using those strategies.

Another area where the intervention seemed to be effective was in the knowledge of proof reading strategies. The students in all groups in both classes became far more aware of what proof reading was. In the Year 6P class in particular, there seemed to be a definite shift in emphasis from proof reading being the responsibility of an adult to one of independence. However, it would have to be stated that perhaps many students in the groups of poor readers/poor spellers found it difficult to identify and subsequently correct misspellings in their own work. With Belinda and Ciaran it seemed as though they could not "see" their own errors.

Another group of students who were of great interest to the researcher were the students who were considered to be average to good readers but poor spellers. All four students categorised in this group before the intervention made considerable gains. In Year 6P, Sally gained 1.0 year and Amanda gained 2.0 years. In 5/6 R, Paul gained 1.1 years and Natasha gained 2.0 years. For the two students in the case studies, Natasha and Amanda the knowledge about spelling strategies did not remain inert. After the intervention, there was evidence that Natasha was not only able to use a repertoire of preferred strategies (sound out and then check to see if the word looks right) but to plan, regulate and evaluate her own use of those strategies. Amanda also demonstrated the ability to use her preferred strategies metacognitively.

The group for which the intervention seemed to be the least effective were those who were identified as average spellers before the intervention. There were four students in 5/6 R's average group who did not make the expected gain. All except one of these students were also categorised as average readers. They were considered to be at Henderson's (1985) mid syllable juncture stage of development. Louise, who was selected for a case study as a negative instance, was in this group. There was evidence to support the fact that Louise's spelling did not improve during the intervention. On the other hand Louise did not appear to be a student at risk since she continued to achieve at a level commensurate with her age level.

There were three students in 6 P's average group who did not make the expected gain. All of these students were also categorised as average readers. They were considered to be at Henderson's (1985) early syllable

juncture stage of development. Jay, who was selected for a case study as a negative instance, was in this group. There was evidence to support the fact that Jay's spelling did not improve during the intervention. Jay appeared to be a student at risk since his spelling age had dropped below his chronological age and because he seemed to have an indifferent attitude towards spelling and to writing in general.

As was true for the case in the initial study, it appeared that the greater emphasis on spelling did not stifle creativity and nor did it lead to less risk taking in an endeavour to spell accurately. In the case studies there was ample tangible evidence that Amanda, identified as a good reader/poor speller before the intervention, really enjoyed writing. Examples of her writing showed her ability to write effectively and creatively. Amanda made considerable gains in her spelling ability. Even though Louise did not seem to make the expected gains in spelling she believed that being able to spell better would enable her to write more interesting words. Examples of her writing indicate that she was willing to have-a-go at writing those interesting words. In fact, the majority of student responses on the post questionnaire related to the fact that knowing how to spell would make the writing task easier, and for some, less frustrating. Mrs P commented that students on the whole approached the task of writing more easily and were generally writing more in a given length of time. While the majority of the students believed that their ability to write effectively may have been hindered by their inability to spell easily and automatically, it is considered that whether they really enjoyed writing seemed to be more of an individual matter and was not entirely dependent of their ability to spell. Natasha's (a good reader/poor speller identified for a case study) spelling ability improved significantly during the intervention, but this did not alter her perception of writing. She simply stated that she did not like writing and that the best part about writing was "reading it after you have finished it."

Another area in which the intervention seemed to be effective was that of attitude. Even though Mrs P commented that many students in her class did not have a good work ethic no matter what the subject, she believed that the majority of the students in her class had a more developed spelling conscience and that more children made a more conscious effort in the first drafts of writing. All students in both classes

believed that it was important for them to strive for accuracy in final drafts of writing and all students felt it was important to be able to spell accurately when they leave school.

#### **9.4 SUMMARY**

In this chapter, quantitative data from the South Australian Spelling Test (1993) and the PRETOS, Proof-Reading Test of Spelling (1981) for each of the three classes, was examined. Because it was considered that post test data collected on the Year 7P class was not reliable, no students from this class were selected for case studies. The fact that the intervention was not effective in improving the students' spelling ability in this class highlighted the need to examine the reasons why. Qualitative data pertaining to students' attitude and knowledge in each of the other two classes was sorted, analysed and discussed. Subsequently each case study was examined within the particular class context.

The effectiveness of the intervention was explored. Generally it was found to be effective in improving the spelling ability of students in two of the three classes. Considerable gains were achieved by the majority of students particularly the following groups - the good reader/good spellers; the good readers/poor spellers and the poor readers/poor spellers. The group where it seemed to be least effective was the group of average readers/average spellers. The area of greatest gain appeared to be that of knowledge, knowledge of the English language system, of spelling strategies and of proof reading strategies. The knowledge of the language system seemed to be transferred to use in a variety of situations both in isolation and in context by the majority of students. However even though the majority of poor readers/poor spellers seemed to use spelling strategies they did not seem to be aware that they did so. Even though they seemed to know the proof reading strategies they did not seem to be able to identify and correct their own mistakes. The students that appeared to make very significant gains were the good readers/poor spellers. Both Amanda and Natasha demonstrated that they not only used a preferred repertoire of spelling strategies but that they also used them metacognitively.

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## CHAPTER 10

### SUMMARY AND CONCLUSIONS

#### 10.1 INTRODUCTION

This chapter restates the problem and discusses the research's contribution to the literature. Major findings are discussed; conclusions from the two studies are drawn and suggestions for further investigations are made.

The intervention was found to be effective in three of the four classes. The study suggests that the teaching/learning process is a complex web involving not only student factors, but teacher factors, school factors, outside school factors and the interrelationship between all of these factors. The research is found to add weight to the arguments that spelling should be explicitly taught and that phonemic awareness skills should not be neglected. Areas for further investigation include the possible use of parents as spelling tutors and studies into the allocation of time for spelling/writing instruction.

#### 10.2 RESTATEMENT OF THE PROBLEM

There is increasing evidence to support the belief that not all students learn to spell by immersion in reading and writing alone. (Fulk & Stormont-Spurgin, 1995; Graham, Harris & Loynachan, 1996; Peters, 1985; Routman, 1993; Westwood 1994 & Winch, 1989). It is believed that although teachers are aware of the problem of a large number of poor

spellers in their classes, as Westwood (1994) and Winch (1989) suggest, they are unsure of how to intervene.

The research sought to fill this perceived educational need by supporting middle and upper primary Class Teachers in the planning, implementation and monitoring of an instructional process designed to address the issue of poor spellers. The research problem was one of examining the effects of a particular instructional process on the spelling behaviours, of middle and upper primary students (nine, ten and eleven year old students). While the research sought to explore the effects on the spelling behaviours of all students in the integrated classes, of particular interest were those who had been identified as poor spellers. Included in the group of poor spellers was a group of special significance, those who were identified as average to good readers but poor spellers (Barron, 1980; Cohen, 1980; Frith, 1980). Previous research (Cooksey, Freebody & Bennett, 1990; Frith, 1980) indicates that the spelling errors of these students appear to be almost consistently phonetic.

Areas explored included:-

- . Students' spelling ability in isolation.
- . Students' spelling ability in context.
- . Students' knowledge and use of spelling strategies.
- . Students' ability to plan, regulate and evaluate their own use of the strategies.
- . Students' attitude (attitude towards self, self-confidence as a speller, and attitude towards the English language).

### **10.3 SUMMARY DESCRIPTION OF PROCEDURES**

It seemed prudent to conduct a pilot study in which the effectiveness of the intervention could be explored. A second study, involving three classes from which six students were selected for in

depth case studies, was conducted to examine more deeply and critically the patterns and initial insights that arose during the first phase.

In the pilot study, the intervention was incorporated into the integrated language arts program of an intact Year 5R in a school of 177 students. In the second study, the intervention was implemented in three intact classes (Year 5/6R, Year 6P and Year 7P) in a school of 560 students. During the final data collection stage of the study two, six students were selected for in depth case studies.

A combination of both quantitative and qualitative data gathering techniques (triangulation) was used to increase the confidence in the findings of the research. Data collection procedures were changed slightly in the second study in an effort to both rationalise the whole process and to strengthen certain aspects eg the instrument used for identifying reading ability.

Time management plans guided the research in both studies. Each of the studies was conducted over three stages with stage one involving data collection; stage two involving the implementation of the intervention; and stage three involving data collection, data analysis and report writing.

The intervention sought to provide a balanced approach to the teaching of spelling by combining aspects of both traditional and whole language approaches. Although spelling was not taught formally as a separate subject, spelling was taught. Children's misspellings in writing activities became the focus for word lists and word study. In this way spelling was considered within the context of writing. There were word lists but not lists taken from a text book. A typical spelling list for the week included core words, theme words, and words that were misspelt in students' writing.

Planning began with the identification of the students' needs (individual, group and class needs). Data from the assessments allowed the children to be placed at various stages of development (Henderson, 1985). Students were grouped for word study according to their particular needs and/or stage of development. The word study lessons which arose

from the needs of the students focused on the "how" rather than the "what" of spelling. The students were encouraged to see word patterns, develop rules and notice unusual word features. Graham, Harris & Loynachan (1996) suggest the teaching of spelling to students with learning disabilities by encouraging active thinking and analysis of word patterns.

Students were trained in the metacognitive aspects of spelling. SPELT (A Strategies Program for Effective Learning/Thinking) developed by Mulcahy et al (1991) was adopted as the model for the metacognitive training. Initially students were explicitly taught how, when, where and why to use spelling strategies and were encouraged to discover that the use of such strategies was beneficial.

Data collection and analysis went hand in hand. The researcher was guided by initial hypotheses gained from the literature reviews and in study one and was prepared to test them as further data was collected and analysed.

In study one, both quantitative and qualitative data analysis procedures were used. A Repeated Measures Analysis of Variance was used to evaluate the effect of the intervention on the students' spelling ability in isolation. The significance level (p-value) for rejecting the null hypothesis was set at 0.05. To bring the data (qualitative and quantitative) into manageable form, it became necessary to generate categories (Attitudes, Knowledge, Skills/Procedures and Strategies) as a basic framework. The class was organised for word study into three groups. Subsequently data was categorised and analysed in terms of the categories for each group of students.

In study two, both quantitative and qualitative data analysis procedures were again used. For each of the three classes, quantitative data from the South Australian Spelling Test (1993) and the PRETOS, Proof-Reading Test of Spelling (1981) was examined. Qualitative data pertaining to students' attitude and knowledge in each of the classes was sorted, analysed and discussed. Subsequently each case study was examined within the particular class context. For each case study, four positive instances and two negative instances, data was sorted, analysed and discussed according to the proposed framework (Attitude, Knowledge,

Strategies and Skills/Procedures) and further into other categories within that framework. Summaries for each case study were given and finally the effectiveness of the intervention was explored.

#### **10.4 MAJOR FINDINGS**

It is believed that the intervention was effective in improving the spelling ability of students in three of the four classes. Considerable gains were achieved by the majority of students particularly the following groups - the good readers/good spellers; the average to good readers/poor spellers and the poor readers/poor spellers.

Kathleen (Year 5/6R) considered a good reader/good speller made the highest gain (3.5 years) in the research. It is hypothesised that the group of good readers/good spellers perhaps became more aware of the strategies that they had previously been using intuitively.

The students that appeared to make very significant gains were the good readers/poor spellers. Both Amanda (Year 6P) and Natasha (Year 5/6R) in the second study demonstrated that they not only used a preferred repertoire of spelling strategies but that they also used them metacognitively. Katie, Karla and Caroline, Year 5R students who were considered to be average to good readers but poor spellers in the initial study, made significant gains in spelling ability. Katie made a gain of 3.3 years. There was evidence of them using spelling strategies and Katie was observed using strategies metacognitively when she corrected her spelling as she wrote.

With the group of hard core poor readers/poor spellers the gains in spelling seemed more related to a gain in knowledge about the English spelling system and in the use of this knowledge in spelling (in isolation and in context). Generally it seemed that the group of poor readers/poor spellers were aware of the strategies and could use some of them (phonic) more efficiently, but as was the case with students in this group in the second study it did not seem as if they were aware they were using them.

The group where it seemed to be least effective was the group of average readers/average spellers. This was particularly evident in the second study.

The area of greatest gain appeared to be that of knowledge, knowledge of the English language system, of spelling strategies and of proof reading strategies in particular. In both studies, the majority of students went from not knowing what proof reading was or being dependent upon an adult to correct their work to all students in both studies knowing what proof reading was and a large number of students being able to correct their own work. Some students in the first study seemed unwilling to correct their own work. However it is believed that the poor readers/poor spellers in both studies seemed to know the proof reading strategies but seemed to be unable to identify and correct their mistakes in their own work. It was as if they could not "see" the mistakes.

It is considered that this study added weight to the growing body of research (Fulk & Stormont-Spurgin, 1995; Graham, Harris & Loynachan, 1996; Peters, 1985; Routman, 1993; Westwood 1994 & Winch, 1989) that argues that spelling should be explicitly taught. It showed that this explicit teaching of spelling, involving word study and strategy (cognitive, metacognitive and motivational) training, within the integrated classroom setting, could improve the spelling of the majority of students not only the poor spellers. Shannon, a good reader/good speller in study one who achieved a gain of 2.7 years, wisely wrote in the post intervention questionnaire, "You need someone to get you on the right track."

#### **10.5 CONCLUSIONS AND RECOMMENDATIONS FOR FURTHER INVESTIGATION**

Exploring the effectiveness of the intervention in different classes and in particular the negative results in one of the classes gave rise to the need to search for possible reasons for the different levels of achievement in each of the four classes in which the intervention was implemented. The negative result with respect to class 7P highlighted the need to consider other influences on a student's spelling ability. It is hypothesised that the teaching/learning process in spelling is a complex web involving

not only student factors, but teacher factors, school factors, outside school factors and the interrelationship between all of these factors.

Using the analogy of a target, the bull's eye representing the student factors; the next circle representing parental influences; the next circle representing teacher influences; the next circle representing school influences and finally the outside circle representing Education Department influences, these issues are discussed.

#### **10.51 INFLUENCES AT THE EDUCATION DEPARTMENT LEVEL**

It is suggested that the Education Department of Queensland's (1994) English syllabus documents do not place as much importance on spelling as do the documents of the Education Department of Western Australia (1994). It is speculated that the documents of the Department of Education of Western Australia may be more user friendly particularly for teachers who are endeavouring to improve the spelling ability of students in their classes.

In the Education Department of Queensland's (1994) English syllabus documents, the student's learning style and level of development are noted as being important and assessment and teaching are clearly linked. However, this is not done specifically in respect to spelling. It is speculated that the goals seem to be more holistic towards the student being able to "deploy" and "interpret" the "generic structure" of a wide range of genres associated with a variety of "cultural contexts". Spelling is referred to as a "textual feature". The focus seems to be one of the students' developing the ability to "deploy" words in a range of written genres. On the other hand, the Education Department of Western Australian (1994, 13) gives spelling special emphasis "because society often uses spelling to make judgements about levels of literacy." It provides ways to assist teachers in identifying a student's particular stage of spelling development and specifically shows the teacher how to link the particular stage of development with appropriate teaching strategies. Further, spelling is considered within the context of writing.

An area to be investigated could be the class teacher's understanding of education department documents and the ability to use that information to assist the identified poor spellers in the class.

#### 10.52 INFLUENCES AT THE SCHOOL LEVEL

The implementation of any program may be limited by time and fiscal constraints. Although money was not a concern for the research, time was, and in the school in which study two was implemented in three classes, time was a great concern. The program was competing with several others for valuable time. Other programs included the School Based English program, Student Performance Standards in English, the Computer Literacy Inservice Course, the Trial for the Year 6 Test and a Comprehensive Discipline Policy. Teachers involved in the study were at times involved as presenters in these other programs (Refer to Appendix U, Anecdotal Records 44, 55, 58, 77) and hence this took a lot of time away from what could have otherwise been used by the teachers to plan for; to implement; to monitor and to review spelling instruction. All three teachers (Refer to Class Teacher questionnaires.) commented on the need for more time. Mrs R simply stated, "I wish I had more time." Mrs P. commented that there should be more inservicing and more follow up for staff. She felt that this was needed until "it becomes a part of what you are doing."

The obvious needs to be stated. The amount of time devoted to instruction is an important factor that can influence student achievement (Curriculum Services, Catholic Education, 1996; Trafton, 1984). Trafton (1984, 552) states that although many extra curricula activities and events "have worthy aims and contribute to broad goals of schooling, they pose problems" for teaching. Although Trafton is referring specifically to the loss of time in the teaching of mathematics it is speculated that this may be equally true for the teaching of spelling. According to Westwood (1994, 31) "Twenty years ago the teaching of spelling as a specific school subject featured much more prominently than it does at the present time."

Class Teachers remarked on the lack of time for spelling and writing. During the third and fourth terms of the second phase of the research, students were involved in many extra curricula activities



including, preparation for the Art Fest, preparation of displays for Book Week, School Sports and inter School Sports, Class Camps, Year 6 Diagnostic tests, school play, practice for bike ride and bike ride, Founder's Day, secondary school orientation activities and preparation for Rite of Passage for Year 7 students. (Refer to Appendix U, Anecdotal Records 47, 57 58, 67, 69, 75, 79, 80.) Miss P claimed - "Not enough is accomplished in English lessons time." As noted earlier, the Year Seven Class Teachers did not have their own classes for one third of the school day. Instead, they rotated through the classes to teach their designated subject eg science, drama, art. This made it difficult for Miss P to encourage the students to transfer what they had learned in spelling to a variety of writing situations.

Many time studies have been conducted in relation to mathematics instruction. Perhaps some data linking spelling achievement with the amount of time spent on spelling instruction and time for the students to write would be beneficial.

It is hypothesised that because the year of study two was the inaugural year of the college, perhaps the effects of school influences may have been more than normal on the research. The formation of the campus in which the intervention was implemented involved the combining of a previously all boys school and a previously all girls school. As a result, it is speculated that teachers and students in the upper grades in particular had many issues to work through. Study one which was implemented in a school which had, at the time, not become part of the total college, would not have been influenced by such issues.

### **10.53 INFLUENCES AT THE TEACHER LEVEL**

It is believed that in the complex teaching/learning process, teacher learning style, attitude, knowledge of the English spelling system and of spelling strategies should also be considered. All three teachers (Mrs R was involved in both study one and study two) of the four classes involved in the study were keen to be part of it and their beliefs about the teaching of spelling closely aligned with those of this researcher. However, it is believed that they obtained different results partly because of what

they as individuals brought to the teaching situation and partly because of the differences in their classes.

The students in the classes of Mrs R seemed to have made the most gains. It is speculated that she had the greatest exposure to the philosophy and methodology of the intervention and had time to try it, reflect upon her mistakes and her achievements. Early in study two, Mrs R stated that she felt confident in implementing the program herself. (Refer to Appendix U, Anecdotal Record 8).

Mrs P had been introduced to the philosophy and methodology of the intervention for the first time in study two. In the final teacher questionnaire, she stated that she had been sensitised in the way to help students and had been given the opportunity to think through her beliefs. She explained that next year she considered that she would be better at it. The Education Department of Western Australia (1994, 7) encourages teachers "to start from where they are, working within their own familiar context..... and gradually incorporate alternative strategies within their own repertoires."

Miss P had also been introduced to the philosophy and methodology of the intervention for the first time in study two. Because she is a young teacher, it is hypothesised that she was going through the later years of her primary schooling when "process writing" (Graves, 1983) was introduced. Her remarks on several occasions (Refer to Appendix U, Anecdotal Records 17, 19, 34) seemed to indicate that she lacked an awareness of the English spelling system. It is speculated that differences in teacher knowledge and understanding about a subject, in this case the English spelling system, can influence the implementation of skills. Anstey (1988) was referring to strategies to assist in the reading process when she explained that if teachers are to teach the procedures they need to understand and to use them themselves. However, it is believed that this could be equally true in relation to knowledge about the English spelling system and its use.

#### 10.54 INFLUENCES AT THE PARENT LEVEL

The influence of parents on the student's ability to spell cannot be discounted. It would seem from the data collected on Brendan, in study one, that his parents seemed to focus on Brendan's ability to get spelling right on the Friday test. On the other hand, from the data collected on Natasha, in study two, it seemed that Natasha's mother seemed to focus more on encouraging Natasha to become more independent in striving for accuracy in final drafts of writing.

Parental permission was gained before conducting the research. Additionally the approach was explained and discussed on Parent Information Nights and during parent/teacher interviews. However, it is believed that parental involvement was not utilised to the fullest in this research. Refer to Appendix U, Anecdotal Records 24, 51. Many Parent Tutor programs (Department of Education, Queensland, 1995) for reading have been successfully implemented in schools. It is believed that similar programs, in which Parent Tutors assist individual students in proof reading examples of writing, would also be beneficial. The aim would be for the students to become independent in correcting their own spelling errors by using proof reading strategies. The use of Parents Tutors in spelling/writing seems to be a somewhat untapped resource and is an area where research is perhaps needed.

#### 10.55 INFLUENCES AT THE STUDENT LEVEL

The students for which the intervention seemed to be the least effective were those who were identified as average spellers before the intervention. There were four students in 5/6 R's average group who did not make the expected gain. All except one of these students were also categorised as average readers. They were considered to be at Henderson's (1985) mid syllable juncture stage of development. Louise, who was selected for a case study as a negative instance, was in this group. There was evidence to support the fact that Louise's spelling did not improve during the intervention. On the other hand Louise did not appear to be a student at risk since she continued to achieve at a level commensurate with her age level.

There were three students in 6 P's average group who did not make the expected gain. All of these students were also categorised as average readers. They were considered to be at Henderson's (1985) early syllable juncture stage of development. Jay, who was selected for a case study as a negative instance, was in this group. There was evidence to support the fact that Jay's spelling did not improve during the intervention. Jay appeared to be a student at risk since his spelling age had dropped below his chronological age and because he seemed to have an indifferent attitude towards spelling and to writing in general. It should be noted that Henderson's (1985) syllable juncture stage of spelling development is synonymous with the transitional stage of spelling development referred to by Education Department of Western Australia (1994).

Why did the least gains seem to be made by the average readers/average spellers? There could have been a multitude of reasons. It could have been partly because of a student's attitude to spelling and perhaps to school in general. It could also be that this group of students have strategies already and they are already using them. However, it is hypothesised that, in the case of Louise, her spelling ability may have been plateauing. When referring to the transitional stage of spelling development, the Education Department of Western Australia (1994, 73) states, "it often takes writers a long time to move through it." They stress that students in this transitional spelling stage need "as much support and explicit teaching as possible" (1994, 73) if they are to progress.

It was stated by researchers (Cooksey, Freebody & Bennett, 1990; Frith, 1980) that the misspellings of poor spellers but average to good readers was almost consistently phonetic. However, the misspellings of this particular group of students in study one, before the intervention, were not consistently phonetic. It is believed that the students in the other studies were more than likely older than the students in this study and that the inability to use a phonological strategy with multi syllable words was partly related to their particular stage of development in spelling.

Natasha (Year 5/6R), in study two, who was identified as a good reader but poor speller was in Year Six and older than the students in study one. However, before the intervention, her misspellings were not phonetically correct - 'different/deffent, signature/signatiture' and she was

placed in Henderson's (1985) late within word pattern stage of spelling development. The fact that Natasha seemed to be a good contextual reader would concur with the findings of Cooksey, Freebody & Bennett (1990) and Frith (1980). However, the fact that the large majority of her misspellings were not phonetic would seem to be contrary to their findings. During the course of the intervention, there was evidence to support the fact that she was beginning to pay more attention to the visual appearance in words when reading; she was using phonetic strategies more efficiently; was using visual strategies to support the phonetic strategies. Further more she was using strategies metacognitively.

Amanda (Year 6P) in study two was identified as a good reader but poor speller who was placed in Henderson's (1985) early syllable juncture stage of spelling development. Although some of her misspellings appeared to be close phonetic approximations - 'mortgage/morgage, leisure/leasure'. Others appeared as if she had either mispronounced or over exaggerated the pronunciation of the words before she spelt them - 'surplus/surplace, orchestra/orcastra'. There was evidence to support the fact that she was a contextual reader rather than a visual reader. Although she scored well on the reading comprehension task, she scored poorly on the proof reading test, seeming to ignore or overlook certain features of words - 'bottom/bottem, everyone/evreyone'. It appeared that Amanda was developing into one of those good readers but poor to average spellers mentioned in the research of Cooksey, Freebody & Bennett (1990) and Frith (1980). It was also suspected that the teacher's emphasis (though not overall approach) on a phonetic strategy may have had a detrimental effect on Amanda. However, a closer examination of data later in the study revealed that Amanda was using visual as well as phonetic strategies and that she was using them metacognitively.

It is proposed that it may be too simplistic to state that the misspellings of good readers/poor spellers may be consistently phonetic (Cooksey, Freebody & Bennett, 1990; and Frith 1980). The good contextual readers as opposed to good visual readers in this research needed to be taught to use phonetic spelling strategies more efficiently. Simultaneously they needed to be encouraged to use visual strategies in spelling and visual clues in reading.

It is hypothesised that when considering a particular student's needs, the student's learning style and repertoire of preferred strategies should also be considered as well as the student's particular stage of spelling development. The strategies that students are encouraged to use need to be compatible with the individual student's learning style and particular stage of spelling development.

James a good reader/average to good speller in study one, and Louise, an average reader/average speller in study two both appeared to be visual learners. James was unwilling to attempt words that were not in his visual memory. Louise stated that her main strategy was to write the word about three or four different ways and then to choose the one that looked right. Her misspellings seemed to be more visual approximations than phonetic approximations - 'especially/espicially, 'enthusiastic/entuiastic'. It is considered that James and Louise should be encouraged to use phonetic and meaning strategies as well as visual strategies to assist them in the accurate spelling of words that they do not have in their visual memory.

Because the English spelling system has three levels of regularity - sound, within word pattern and meaning - (Henderson and Templeton, 1986) one spelling strategy will not suffice for all words. While the students' present preferred strategy/or strategies for spelling may seem satisfactory for them, it is believed that they should be guided to the realisation that the use of a variety of strategies, depending upon the particular word, would be more beneficial.

For Brendan, in study one, spelling seemed to be reciting a list of letters. While this strategy may be adequate enough to enable him to spell single syllable heavy duty words accurately, it may not be efficient when he encounters unfamiliar multi syllables. Natasha appeared to be an auditory learner who was just moving into the syllable juncture stage of spelling development. She tended to 'chunk' the word and then would look to see if what she had written was correct. However, she would need to be encouraged to change that repertoire of strategies to suit the particular type of word. If the word 'magician' was in question, it would perhaps be more beneficial for her to think of the meaning base - 'magic' rather than 'chunk' the word.

When faced with the spelling of an unfamiliar word, the student needs to be able to choose from a variety of strategies to suit the particular word and then to synchronise the use of that repertoire of spelling strategies (both cognitive and metacognitive). According to Weckert (1989, 9) no one aspect will guarantee standard spelling. The student needs to be able to use the strategies "in conjunction and in concert with each other." Ambruster, Echols & Brown (1983) explain how the student's knowledge about task, strategies and learner characteristics interact to produce learning in reading. It is believed that the student's knowledge about the English spelling system, spelling strategies and learner characteristics interact in much the same way to produce learning in spelling.

Through this study, the researcher would concur with Ambruster, Echols & Brown (1983) that knowledge precedes control. They believe, as this study showed, that students must have knowledge of the process involved and their own characteristics as learners, before they can strategically control the process. This study added weight to the argument by researchers into metacognition (Bransford & Vye, 1989; Mulcahy et al, 1991) that many opportunities for interactive teaching are necessary to foster cognitive and metacognitive skills. Ways of applying strategies in spelling in isolation and in spelling in real writing situations, requires the teacher to think aloud metacognitively. The teacher needs to show the students how to 'have-a-go' by trying a strategy (phonological), reflecting on the result (Does it look right?) and having another go by modifying the strategy. As Costa & Lowrey (1989) suggests students should be encouraged to think about and reflect on their thinking on each occasion when the spelling of a word is not automatic.

The research also demonstrated, as Henderson & Templeton (1986) suggest, that students need to be given time to study words. It is believed that the interactive word study sessions promoted inquiry and experimentation with words; drew attention to the patterns in the English spelling system; encouraged a use of a variety of strategies and provided valuable opportunities for the teacher to note students' preconceptions, misconceptions and thinking processes.

### **Phonemic Awareness**

Barron (1980) warns that too much emphasis by the teacher on one or other strategy may encourage children to overrely on the particular strategy. Although Mrs P taught the other strategies, the main teaching focus was on a more efficient use of phonetic strategies. Because of the particular needs of 6P in study two, there was an emphasis on building up early grapho phonic knowledge - vowels, consonants, consonants blends, consonant digraphs and syllables, and in phonemic awareness activities. It was also discovered that the majority of the students in this class (all except four students in the highest group) were not using the phonetic accurately. The great majority of the students wrote multi syllable words incorrectly (syllables missing or added). Many of the students left out or added consonants in blends in single syllable words. Many students confused short vowels.

Many of the students in this class were at Henderson's (1985) within word stage of spelling development. Because of the age of the students, the fact that in previous years many of these students may not have been explicitly taught spelling, cannot be completely ignored. Further, while it is believed that some teachers may have taught spelling, they may not have been aware of the prerequisites for good spelling. The researcher's twenty-two years of teaching experience, indicate that while some teachers teach letter/sound associations (phonics), they are not aware of, and therefore do not teach phonemic awareness (ability to hear sounds as they occur in words). Whipp (1994) argues that the teaching of letter/sound associations will improve spelling only if students have good phonemic awareness skills. Whipp (1994) states also that some students may move through the primary grades with unrecognised phonemic awareness difficulties. Westwood (1994, 31) also argues that, "the role of phonological awareness and phonic knowledge ..... has been greatly underestimated in the past."

At the end of the intervention period, the hard core bad spellers, Belinda (Year 5/6 R) and Ciaran (Year 6 P) in study two spelt all of the single syllable words (except homophones) correctly and Mrs P believed that Ciaran was far less likely to spell a four syllable word in two syllables. Mrs P also remarked that his writing was far easier to read and as Ciaran



explained he was now able to use the speller checker on the computer. This research adds weight to the argument (Whipp, 1994) that teaching of phonemic awareness together with knowledge of the letter/sound system will improve students spelling ability.

### **Spelling/Writing Connection**

While the results on the South Australian Spelling Test (Westwood, 1993) concurred with other qualitative data on the great majority of students, it is considered that a standardised test of spelling in isolation should not be used as the sole determiner of a student's ability to spell. James, a good reader/average speller in study one, was an example where the results on the South Australian Spelling Test belied his ability to spell in context. Conversely, although Madelyn, a good reader/good speller study one, clearly demonstrated the ability to spell more difficult words in isolation on the South Australian Spelling Test, an examination of writing samples indicated that she did not use language creatively.

Conversely nor should an examination of writing samples be used as the sole determiner of a student's ability to spell since factors other than the ability to spell influence a student's ability to write effectively in context. It may be that the student experiences expressive language difficulties that inhibit the student's ability to communicate ideas and concepts effectively in writing. It may be, in the case of Olivia, Robert and Soakimi, where English is not the first language and students have difficulty expressing themselves in the English language. It may be that the student does not have an enriched vocabulary because of poor environmental stimulation. It may be that the student has visual motor integration difficulties that make the process of handwriting tiresome.

The study further demonstrated the need to realise that good writing is based on a healthy balance between stimulating creativity and teaching the techniques of writing. An over focus on the mechanics of writing (spelling and grammar) may lead students to believe that correctness is valued over content (Education Department of Western Australia, 1994). On the other hand, as many students in this study commented, efficient spelling frees the writer to attend to higher level processes. The poor speller finds spelling to be a slow demanding task and

therefore has little time or energy to expend on sentence or story structure. Just spelling takes up a great deal of what the Education Department of Western Australia (1994, 7) refers to as a student's 'mental space' or working memory. Clearly creativity should be stimulated and skills such as spelling should be taught without one slighting the other (Frank, 1979). As Graham, Harris & Loynachan (1996, 34) state, "If more explicit and direct approaches to spelling instruction are used, students need to have a meaningful context in which they can apply the knowledge and skills learned."

### **Metacognition - A Developed General Tendency**

While this particular study, conducted in the actual learning situation, improved spelling ability in isolation and in context for the great majority of the students; only some students were observed as being able to plan, monitor and evaluate their use of spelling strategies in writing and some students were observed as being able to use proof reading strategies metacognitively. Many continued to perceive learning to spell as learning a list of words rather than learning to apply different strategies appropriately. Bransford & Vye (1989) stressed the importance of assessing inaccurate beliefs, since preconceptions and misconceptions need to be changed if progress is to be made. It is believed that a large proportion of the intervention's time was spent on accessing and addressing those preconceptions and misconceptions. Refer to Appendix U, Anecdotal Records 54 and 64. Further research, similar to this study, but over a much longer period of time will be required, to explore whether or not many students' long held perceptions of spelling can be changed and whether or not their understanding and use of cognitive and metacognitive strategies can be enhanced. Rowe (1988) states that metacognition might best be described as a developed general tendency which is built up over time and across many and varied incidences.

### **10.6 LIMITATIONS OF THE RESEARCH**

The problems associated with the amount of time required to collect and analyse data; the lack of quality time available for training the Class Teacher; and the insufficient amount of time to allow for metacognitive skills to develop have already been discussed.

When compared with stringently controlled quantitative designs, this study may not appear to be reliable/replicable. However, as LeCompte & Goetz (1982) advocate, the researcher has sought to precisely delineate the context of the study and to identify and thoroughly describe methods of data collection and analysis in an endeavour to increase external reliability. The study also used both quantitative and qualitative data collection and analysis techniques (triangulation) in an effort to provide converging measures by allowing the researcher to capitalise on the strengths and avoid the pitfalls of each separate method (Cavanagh & Perlmutter, 1982; Garner, 1988). Threats to internal reliability should also have been reduced since the Class Teachers acted as a participant researcher in that they were responsible for implementing the intervention and collecting certain data.

Because of the very nature of educational research, it was difficult to control for internal validity and external validity. It has to be stated that the effectiveness of the intervention may have been influenced by any or all of the following:-

- . Class selection (easily accessible to researcher);
- . Previous spelling instruction of the class;
- . The amount of time spent on the intervention;
- . The Class Teachers' perceptions of how spelling should be learned/taught;
- . The specialness of the project (Hawthorne effect); and
- . The fact that advance organisers were constantly given.

However, to counter this argument is the statement by LeCompte & Goetz (1982) that validity is the major strength of qualitative research. In this study, every effort was made to describe the situation as it really was from multiple sources. Additionally, all phases of the research were subject to continual questioning and monitoring.

Patton (1990, 479) states that "perhaps the most common concern about qualitative methods is the subjectivity of the evaluator." Since the researcher, as Support Teacher, inserviced the Class Teachers; supported them in implementing the intervention; gave demonstration lessons and taught word study lessons in team teaching situations, it is considered that it would be hard for her to become detached. However, Scriven (1967) emphasises the importance of being factual about observations rather than being detached from what is being studied. The researcher endeavoured to heed Scriven's advice by being balanced, fair and conscientious in taking account of the multiple perspectives. Further more, the researcher attempted to deal openly and honestly with the complexities posed by the negative instances in the study and clearly stated when explanations for the negative outcomes were merely conjectures or hypotheses.

### **10.7 SUMMARY**

In this chapter the research problem was restated and the research's contribution to the literature was explained. Major findings were discussed; conclusions from the two studies were drawn and suggestions for further investigations were made. The intervention was found to be effective in three of the four classes. The study suggested that the teaching/learning process was a complex web involving not only student factors, but teacher factors, school factors, outside school factors and the interrelationship between all of these factors. The research added weight to the arguments that spelling should be explicitly taught. The teaching, according to this research, would need to involve word study and strategy training (cognitive and metacognitive) at the individual student's level of spelling development. The teaching would also need to consider the interrelatedness of the student's learning style, the student's level of spelling development including the student's knowledge and use of spelling strategies and of the particular spelling task. The research strengthened the belief that phonemic awareness training should not be neglected. Areas for further investigation included the possible use of parents as spelling tutors and studies into the allocation of time for spelling/writing instruction.

Insufficient time was found to be the biggest problem. More time was found to be required to allow the metacognitive skills to develop; to allow for more spelling instruction and for the students to write. More quality time was found to be required to inservice class teachers.