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VICTORIAN MODERN CURSIVE HANDWRITING
IN WEST AUSTRALIAN SCHOOLS

By

Deborah Ann Taylor B. Ed.

A Thesis Submitted in Partial Fulfilment of the
Requirements for the Award of

Bachelor of Education with Honours
at the Faculty of Education, Edith Cowan University

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ABSTRACT

The Victorian Modern Cursive script was introduced to Western Australia as the newly recommended handwriting style in 1990. The choice of this handwriting style, which is a foundation style similar to the Simple Modern Hand (Gourdie, 1981), was based upon the prediction that its use would facilitate the transition from beginners' script to full cursive writing. This assumption has not been tested in West Australian schools and hitherto no evaluation of the new handwriting model has been conducted.

This study set out to evaluate and compare the legibility and fluency of cursive writing of a group of Year 3 children who had been taught the Victorian Modern Cursive style since Year 1 with the cursive writing of a group of Year 3 children who had previously been instructed in manuscript. The subjects were 60 randomly selected children from six schools in the Perth Metropolitan area. The sample contained an equal number of boys and girls and left- and right-handed children in each group. The children were individually rated for fluency of writing behaviours (posture, pencil hold, paper position and writing movement) as they completed a short writing task. The writing samples were then rated on a 20 point scale based on the criteria of letter formation, spacing, size and alignment and slant and joins. The teachers of the six classes were also interviewed to determine their attitudes toward the new style.

It was found that the children in the group who had been learning the Victorian Modern Cursive style since Year 1 (experimental group) produced significantly more legible cursive writing than the group who had previously been instructed in manuscript (control group) [$t(58) = 3.25, p < .05$]. Furthermore, these children in the experimental group were significantly better at letter formation [$t(58) = 2.61, p < .05$] and slant and joins [$t(58) = 4.22, p < .001$] than the children in the control group. The two groups were not found to be significantly different on fluency of writing behaviours. There was no significant difference between the handwriting of girls and boys, or right- and left-handed children.

The teacher interviews revealed a positive attitude by the teachers toward the Victorian Modern Cursive style. All six teachers believed that early instruction in the Victorian Modern Cursive style facilitated the transition to cursive writing. Concerns with its introduction to Western Australia centred around the lack of adequate inservice training and provision of appropriate resources, in the form of paper, workbooks and charts.

The findings of this study support the case for the continued use of the Victorian Modern Cursive style in West Australian schools. It is recommended however, that more comprehensive inservice training be made available to the teachers of handwriting and also that the necessary resources be readily available in all schools.

I certify that this thesis does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any institution of higher education; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.

Signature

Date 31-36 9/10

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CHAPTER ONE

INTRODUCTION

1.0 Background

In 1989 the West Australian Distance Education Centre (DEC) and Schools of the Air needed to replace the outdated existing course of handwriting instruction for isolated children. As a result of their investigation into styles and materials used throughout Australia, it was established that other states and territories, with the exception of the Australian Capital Territory and Western Australia, had recently adopted handwriting styles based on the Simple Modern Hand. The DEC sought clarification from the West Australian Ministry of Education regarding which style to use and, as a result, two officers from the DEC were instructed to visit South Australia and Victoria in order to research the handwriting styles used in schools in those states ("Summary: Research into Victorian and South Australian Handwriting", 1989).

During this time, the Australian Education Council (AEC) released a policy statement outlining the need for consistency in handwriting in schools across Australia. There was concern from parents of children transferring between and within states that there was a wide variation of styles and standards of handwriting in different localities and that the difficulties faced by children having to conform to these variations could be avoided if the handwriting policy was uniform across the nation. The

AEC recommended that all schools adopt a handwriting style based on the Simple Modern Hand and that schools accept differences in handwriting style from children transferring from other systems ("Policy Proposal", 1990).

Prior to this time, children in Year 1 were taught to print in a ball and stick style of manuscript, and then instructed to learn new letterforms, slope and joining in order to make the transition to cursive writing two years later. This practice was seen to be in conflict with modern findings on how children learn to write and how best to teach them (Gourdie, 1981; Evely, 1984; Sassoon, 1990). Furthermore, it was believed that this retraining of a skill which had been practised to the stage of automation caused trauma for some students and was an unnecessary impediment to the continuing writing development of young children (Skinner, 1979; Nichol, 1981; Evely, 1984). It had also been reported that many secondary school students reverted to manuscript when under pressure to write fast and for long periods of time, and this was believed to be because the skill that has been learned to automation becomes the natural one to use when under stress ("Policy Proposal", 1990).

As a result of the report to the West Australian Ministry of Education from the DEC staff members who had investigated handwriting styles in the Eastern States, it was decided that the Victorian Modern Cursive style would be the new recommended handwriting style in West Australian schools. This model was chosen ahead of the

versions used in other states because it

... is a foundation style, in which the earliest experiences provide letterforms which are not changed in later years. Specifically, the use of exit strokes on letters is conducive to the automatic linking of letters and to the development of fluency in writing ("Policy Proposal", 1990, p.3).

1.1 Significance

In the report to the West Australian Ministry of Education on handwriting in South Australia and Victoria, several recommendations were made relating specifically to the need for evaluation and monitoring of standards for the first four years of implementation of a new style in schools. This was because it had been noted that in schools where the inservicing and support for the new model had been limited or unsatisfactory, the teachers were not teaching the letterforms correctly and this was reflected in poor standards of writing by the students and inconsistency between the schools. It was recommended that areas requiring further support be pinpointed to enable the education authority to modify the resources or inservice training if necessary ("Summary: Research into Victorian and South Australian Handwriting", 1989).

Communication with West Australian Ministry of Education officers involved in English curriculum development reveals that no evaluation or monitoring of standards of the Victorian Modern Cursive handwriting style in Western Australia has been conducted. Therefore,

there has been no collection of data to establish whether or not the introduction of the Victorian Modern Cursive style to Western Australian schools results in greater fluency and legibility of cursive writing. Such information is vital if educators are to make informed decisions regarding the use of resources and promote confidence in the newly adopted model of handwriting.

1.2 Research Problem

The purpose of this study is to investigate whether or not the introduction to Western Australia of the Victorian Modern Cursive style of handwriting makes a difference to the cursive writing of young children. Specifically, children in Year 3, who are making the transition from beginners' (unjoined) script to full cursive writing will be rated on the fluency and legibility of their cursive writing to determine whether or not initial instruction in the Victorian Modern Cursive style facilitates a smoother transition to cursive writing than if manuscript were used as the initial handwriting style.

1.3 Research Questions

This study aims to answer the following questions:

a) What is the difference in the legibility of cursive writing between a group of children who have been taught Victorian Modern Cursive beginners' script since Year 1 and a group of Year 3 children who have been taught manuscript since Year 1?

b) What is the difference in fluency of cursive handwriting behaviours between a group of children who have been taught Victorian Modern Cursive beginners' script since Year 1 and a group of Year 3 children who have been taught manuscript since Year 1?

c) What are the attitudes of the teachers to the Victorian Modern Cursive style? Do they believe initial instruction in this style facilitates a smooth and easy transition to cursive writing?

1.4 Definition of Terms

Manuscript Handwriting is handwriting that consists of vertically printed letters. The 'ball and stick' type of manuscript was introduced to schools in the 1920's because it was believed to be easy to learn and corresponded closely to the typescript of beginning reading books. It was also hoped that young children writing with this style would produce more legible handwriting and would not make as many ink splashes while writing with pen and ink (Connell, 1983). See Appendix A.

Cursive Handwriting is handwriting where most or all of the letters are joined. There have been many varieties of cursive handwriting in the centuries since the development of Chancery Cursive by West-European monks in Renaissance times. Cursive handwriting can vary from very elaborate examples of calligraphic art to the Simple Modern Hand and Foundation styles developed by Tom Gourdie and Christopher Jarman during the latter part of this century. See Appendix A.

Victorian Modern Cursive is a foundation style of handwriting influenced largely by the research and recommendations of Tom Gourdie, a Scottish calligrapher who developed the Simple Modern Hand, based on the "natural" scribble patterns of the young child (Gourdie, 1981). This style requires little modification from the beginners' unjoined script to full cursive writing because it features oval wedge-shaped letters which are forward sloping. The beginners' script of the Victorian Modern Cursive model differs from that used in New South Wales, South Australia, Queensland and Tasmania in that exit strokes are taught as an integral part of the letterforms. Similar styles are now taught in other parts of the world, including New Zealand, Norway, Sweden, Holland and parts of the United States and Canada. See Appendix A.

Fluency often means the speed of writing (Masters, 1987). In this study fluency is used to refer to the process of handwriting. This definition is based on the work of Evely (1985, p.3) who states, "Fluency is the ease and rhythm of writing" and Holliday (1988, p.15) who says "Fluency refers to the smooth rhythmic movement of the point of the writing implement." In order to observe and measure fluency, it is necessary to recognize the factors that influence the writing movement. These are the writer's posture, penhold, the size and type of writing implement, the type of paper used, handedness, coordination and the necessity of penlifts when writing for long periods of time (Holliday, 1981; Evely, 1984).

Legibility is seen by parents, teachers, employers and researchers as the major area of concern with regard to handwriting (Masters, 1987). Legibility is sometimes defined as "readability" and is often confused with neatness (Koenke, 1986). Legibility is the product of the writing process and "refers to the ease with which we can distinguish individual letters and groups of letters" (Holliday, 1988, p.3). In order to judge legibility, it is necessary to define the characteristics of legible handwriting. Most researchers cite the criteria of quality of letter formation, consistency of spacing, size and slope and alignment (Evely, 1985; Koenke, 1986; Holliday, 1988; Ziviani and Elkins, 1986).

CHAPTER TWO

REVIEW OF LITERATURE

2.0 Introduction

The current widespread use of word processors and typewriters to deal with the many situations requiring written communication has altered the way the skill of handwriting is viewed by the educational and wider community (Masters, 1987). Nevertheless, the value of fluent, legible handwriting has not greatly diminished as it remains necessary not only as a means of personalising written communication but also as an expression of individuality and creativity (Ryan, 1985). In addition, research findings have linked handwriting ability to academic achievement and social behaviour (Gourdie, 1980; Nichol, 1981) and also to thinking and feeling (Phelps and Stempel, 1987).

Surveys of teachers' attitudes and instructional practices with regard to handwriting in schools have revealed that this skill is seen to be of lesser importance in the language arts curriculum than the other areas of reading, spelling and written composition (Peck, Askov and Fairchild, 1980; Masters, 1987). Furthermore, methods of handwriting instruction have usually been based upon traditional practice rather than research evidence and have received little time and attention in teacher training (Petty, 1966; Graham, 1986; Peck, Askov and Fairchild, 1980). This is despite the fact that research has shown that teachers' assessment of students' written

assignments is affected by the legibility of the handwriting in which it is written (Farris, 1991). As examination procedures require students to submit responses in their own handwriting, it remains a responsibility of the school to promote fluency and legibility of handwriting in all students (Nichol, 1981).

Despite the apparent unpopularity of handwriting in the school setting, this skill has received a lot of attention from researchers in the last twenty years. A search of the ERIC, AEI and Educational Psychology databases revealed a plethora of studies and articles related to many aspects of the skill of handwriting. This review focuses on literature pertinent to the primary school setting and does not include information specific to the handwriting of older children and adults, or learning disabled or emotionally disturbed children. The application of electronic technology to the skill of handwriting and the effects of speed and stress on legibility and fluency of writing are also beyond the scope of this review, as they do not directly pertain to the study at hand.

2.1 The Skill of Handwriting

Much of the early handwriting research focussed on the product of the writing process, that is the style and legibility of the writing. The more recent literature, however, reveals a shift in emphasis toward the view that handwriting is a movement skill in which the process is just as important as the product. Holliday (1981, p.2)

claims that, in order to assist children in becoming good writers, "...we must view handwriting as a process, as the movements each child is making". In doing so, it becomes easier to diagnose and remediate handwriting problems and also allows for greater individuality and variation in ability (Holliday, 1981; Sassoon, 1989; Victorian Ministry of Education video, 1987).

Handwriting is a perceptual motor skill which, in young children, is closely allied to the skill of drawing (Michael, 1984; Evely, 1984). Maloney (1983) carried out systematic observations of young children drawing and writing and concluded that most children have acquired a 'precision' grip by the age of six and are well able to use the fine motor control necessary for the wrist and finger movement used when writing. Several experts, therefore, have questioned the traditional practice of having young children use large writing implements and make whole-arm movements to produce over-sized letters as they learn to write the alphabet. This task, they have argued, is in fact more difficult than the exercise of writing normal-sized letters (Michael, 1984; Evely, 1985). Instead, authorities on handwriting now advocate that children practise patterns which incorporate the horizontal lines, vertical lines and oval shapes that make up the letterforms (Holliday, 1981; Cox, 1985).

It is also believed that the act of producing strokes with a downward movement promotes a more rhythmic, relaxed writing hand than if the strokes are made with an upward

motion (Holliday, 1981; Cox, 1985; Victorian Ministry of Education video, 1987). This skill needs to be taught, however, for if children are left alone to reproduce patterns and letters, they will inevitably do so using an inappropriate sequence of movements and this will impede fluency at a later stage (Michael, 1984; Jarman, 1990). As writing is a motor skill, once the movements have become automatic, it is very difficult to retrain the writer, so early instruction and practice of correct strokes and formations are essential if problems are to be avoided (Sassoon, 1990; Jarman, 1990).

2.2 Factors Influencing Legibility and Fluency

How children write in terms of how they sit, place their paper and hold their pen inevitably affect the written trace.
(Sassoon, 1989, p.7)

Holliday (1981) concurs with this view in a statement concerning the six influences on handwriting movement, adding the importance of the writing implement and type of paper written on, the writer's attitude and self-image, the teacher's example and instructional techniques and the child's ability to visualize the movements that are to be made. Graham (1986) states that the sex and handedness of the writer also influence legibility, a claim that has been supported by some researchers (Tarnopol and Feldman, 1987) but refuted by others (Hill, Gladden, Trap-Porter and Cooper, 1982; Trap-Porter, Gladden, Hill and Cooper, 1983). The type of writing task is another influence on the resulting legibility and, predictably, it has been

shown that performance is better when the task is a copying exercise than when it is a creative writing activity (Graham, 1986).

Traditionally teachers have given beginning writers thick pencils or crayons with which to write but this practice has been questioned by researchers and educators. As most children nowadays have access to a wide range of writing utensils from an early age, they are usually adept at their use. Although some experts decry the use of ball-point pens (Gourdie, 1981; Grislis, 1987), most recommend that children be given a choice of writing implement (Holliday, 1981; Manning, 1988; Maloney, 1983).

More important than the pen or pencil used to write, is how that tool is held while writing (Sassoon, 1989; Phillips, 1982; Masters, 1987). Many authorities on handwriting encourage the use of the pen or pencil as an extension of the hand, in order to promote fluent movement across the page (Gourdie, 1981). A study by Ziviani and Elkins (1986) questioned the emphasis placed by teachers on pencil grip. They concluded that the way a writing implement is held does not significantly affect legibility and speed and urged teachers to look to other causes of poor handwriting. This view is refuted by Holliday (1981) and Gourdie (1980) who both link poor pencil hold to poor legibility. They advocate the adoption of the 'dynamic tripod' grip where the implement is held between the thumb and forefinger and supported by the middle finger. By doing this, the hand moves the pen while the fingers

simply hold the pen in position, and thus the less desirable 'finger-writing' does not occur. Sassoon (1990) agrees with the use of this grip but encourages teachers to accept individual differences and preferences in pencil hold as well as choice of utensil and type of paper.

The debate over the use of lined or unlined paper for beginning writers has been the subject of much research which has yielded conflicting results. Some experts advocate that young children use unlined paper when learning to write (Koenke, 1986; Gourdie, 1980), while others claim that children need the lines to be able to align the letters accurately and achieve the correct size and proportion (Pasternicki, 1987; Yule, 1987). Koenke (1986) and Trap-Porter et. al. (1983) both state that wide-spaced lines are better for young or transitional writers, but Maloney (1983) refutes this, citing his research into the size of children's drawings. He uses his findings to conclude that children prefer to make small drawings and that forcing them to write large letters and symbols causes them difficulty. As research findings on this topic are inconclusive and conflicting, most experts recommend that children be given a choice of type of paper to use when writing.

The writer's posture is another important influence on the comfort and legibility of writing. Sassoon (1989), Phillips (1982) and Holliday (1981) all advocate a sitting position where the writer has a straight back, feet on the floor, head held up and the non-writing hand holding the paper. This posture not only allows for comfort when

writing for long periods but also encourages the writing arm to move across the page smoothly, promoting better fluency and legibility. Paper position is also important and it is recommended that the paper be angled to allow for natural slope. Writers who are left-handed should angle the paper to the right and right-handed writers should have the paper angled to the left (Gourdie, 1980; Holliday, 1981; Sassoon, 1989).

2.3 Teaching Practices and Teacher Attitude

Another major cause of illegibility in writing is poor letter formation and for this reason researchers have investigated methods of teaching handwriting to beginning writers (Anderson, 1966; Peck, Askov and Fairchild, 1980; Evely, 1984). It has been shown that in the teaching of handwriting, direct instruction is more effective than having the children work individually in copybooks or teaching the skills incidentally as the need arises (Farris, 1991; Masters, 1987; Jarman, 1990). Furthermore, learning letterforms by copying results in more legible writing than if learning by tracing (Jarman, 1990; Manning, 1988). Hayes (1982) found that children who were given a visual demonstration of the correct letter formations with accompanying verbal instructions, then verbalized the stroke sequence themselves as they copied the letters, produced significantly more accurate letterforms.

Although proponents of the 'whole language' approach would be more inclined to teach handwriting incidentally as the need arises throughout the school day (Marlow, 1985; Farris, 1991), research has shown that regular handwriting lessons involving demonstration and practice of letterforms are more likely to produce fluent, legible writers (Holliday, 1981; Masters, 1987). The video produced by the Victorian Ministry of Education (1987) to demonstrate the Victorian Modern Cursive style and appropriate teaching strategies combines the direct instruction and process writing approaches by advising teachers to teach handwriting in small groups. By following the strategies suggested in the video, the teacher not only provides the demonstration of letterforms and modelling of slant and joins, but is also able to monitor each child's progress as he/she forms the letters and to offer relevant assistance where necessary. This is very difficult to accomplish if teaching handwriting to a whole class from the blackboard. The small group approach also enables each child to see the writing movements as they are performed, avoiding the 'back-to-front' scenario created when the teacher demonstrates handwriting from the blackboard for children to copy at their desks. While the teacher works with a group of four or five children, the remainder of the class are in groups working on handwriting worksheets, copybooks, drafting or publishing their stories or doing fine motor control activities such as pattern making, threading or mazes. The Victorian Ministry of Education claims that this approach "is appropriate for introducing and demonstrating letters,

diagnosing and remediating problems and provides context for improvement in handwriting" (1987, video).

In order to effectively teach a handwriting style, teachers must be fluent in the style themselves and express a positive attitude towards its use (Grislis, 1987). Grislis sympathises with teachers in New South Wales who have had to change to a different handwriting model several times in the last twenty years but nevertheless stresses the importance of the teacher's role in the successful implementation of a new handwriting policy when he states:

Teachers must be convinced of the value of Foundation handwriting and show enthusiasm for it if children are going to respond in a positive manner (1987; p. 1).

It seems reasonable to conclude that the most expedient and effective way to impart such knowledge and attitudes to teachers is through preservice and inservice training. In the report and recommendations to the West Australian Ministry of Education regarding handwriting styles used in Victoria and South Australia, it was stated that:

The teachers inserviced extensively by Murray Evely were teaching the style properly and were achieving the most successful results ("Summary: Research into Victorian and South Australian Handwriting", 1989; p. 2).

It would be expected, then, that the introduction of a new handwriting model would be accompanied by accessible, useful support through personnel and resources and that this would ensure that all teachers had the skill and desire to teach the new style appropriately.

The teacher's attitude toward handwriting and its instruction is believed to be an important influence on the performance of the students in the class. Although Peck, Askov and Fairchild (1980) cite one study that concluded that teacher attitude did not significantly affect the pupils' handwriting, this finding is not supported in the literature. Research and recommendations by Sassoon (1981), Masters (1987), Manning (1988) and Holliday (1981) all stress the importance of positive teacher attitude on student outcomes in terms of fluency and legibility of handwriting. This would appear to be of even more importance when a change in policy or style has been introduced. Therefore, effective and informative inservice should not only provide teachers with appropriate knowledge and skill to carry out the policy change but also promote in them the positive attitude and confidence to ensure that the change has been worthwhile. As stated in the Ministry of Education's document "Issues To Be Dealt With When Changing To A New Model" (1990, p. 5),

An authority that allows for adequate inservice can use such sessions to give teachers the confidence to use the new scheme in the best way for the pupils. If it is launched without adequate training then too often teachers put too much emphasis on the final product, the model, and too little emphasis on the method.

2.4 Handwriting Evaluation

Historically, the evaluation of handwriting has not provided quantitative data for research or school reporting purposes. Surveys have shown that although many primary school teachers assign a grade for handwriting, this judgement has usually been based upon subjective opinion of overall legibility and aesthetic quality rather than objective assessment (Graham, 1986; Peck, Askov and Fairchild, 1981; Sharpley and Gay, 1983). Recently however, researchers have endeavoured to produce a valid, reliable means of measuring handwriting performance. The aim has been not only to develop a method for collecting data that can be statistically analysed but also to provide teachers with a measurement tool which yields useful diagnostic information (Alston, 1983).

The first formal attempt to objectively evaluate handwriting was made by Thorndike (1910) through the use of a handwriting scale (Formsma, 1988). Thorndike's Scale comprised a series of handwriting samples of varying degrees of legibility against which the writing could be matched to achieve a rating of "general merit". Similar scales were subsequently developed by Ayres (1912) and Freeman (1915) and these refined the technique, taking into account spacing, slant, height, letter formation, quality of line and appearance. Graham (1986) questioned the reliability and validity of these scales, claiming that "Handwriting scales generally do not provide an adequate means of determining competence, individualizing instruction or monitoring progress." (p.63)

Graham criticised the use of obscure terms such as "extreme" and "properly", stating that the criteria for legibility need to be defined in operational, observable terms, in order to increase inter-rater reliability. Furthermore, he urged evaluators of handwriting to examine carefully the chief influences on variability of handwriting scores: these being the writer, the writing task and the examiner. Although the task can be controlled by collecting data under standardized conditions and inter-rater reliability can be increased with training, it is necessary also to allow for differences within the writer, such as sex, handedness and general health. Graham also criticised handwriting scales because they do not represent the full range of writing performance within a population and do not allow for individual differences in ability and style.

Recently, researchers have sought to improve the validity, reliability and utility of handwriting assessment procedures by using evaluative overlays. Much of the research into the effects of different instructional techniques and writing tools has made use of overlays to assess and compare the subjects' handwriting (Sims and Weisberg, 1984; Trap-Porter, et. al., 1983). Overlays are purported to be more reliable tools of handwriting evaluation as they have been shown to be consistent over time and between judges (Graham, 1986; Formsma, 1988). Sims and Weisberg (1984) compared the use of evaluative overlays to teacher ratings and reported that teachers accept more variation in style and size of

letters than do the more objective overlays. As minimal variations in letter formation, slant and size are scored as incorrect by the overlays, they have been criticised for their insensitivity to stylistic variations between individuals. Therefore, the construct validity of the overlays is diminished as variations in size, slant and style do not necessarily render handwriting less legible (Ziviani and Elkins, 1984).

Other means of handwriting evaluation include holistic rating scales based on Likert-type scales and checklists defining specific criteria for scoring, such as letter formation, slant, rhythm, space and general appearance. Alston (1983) compared the the reliability of teachers using a seven point rating scale to a 23 point checklist. She reported that teacher ratings are not as reliable as scoring using the Handwriting Checklist, which she claims is easy to administer and a valuable diagnostic tool.

Phelps, Stempel and Speck (1985) investigated the validity and reliability of the Children's Handwriting Evaluation Scale (CHES) and reported that it was a reliable, objective means of measuring handwriting which also provided diagnostic information about the writer. The CHES uses a five point scale (very poor, poor, satisfactory, good and very good) with which to score the writing sample on the criteria of letterforms, slant, rhythm, space and general appearance. Phelps et al. claim that intra-scorer agreement is high (>.88) using this

scale, especially when more than one sample for each subject is scored. However, the subjective terminology of the ratings raises some doubts as to the reliability of this scale, especially if it is to be used by classroom teachers.

Graham (1986) compared the validity, reliability and utility of holistic rating scales to evaluative overlays and reported that although the holistic rating scales are less reliable, they correlate with other indices of handwriting legibility. The internal validity of the correct/incorrect method using overlays was questioned by the raters in the study who claimed that the overlays were not sensitive to personal handwriting styles.

The focus of many researchers on the legibility of single letters or symbols rather than the combination of interrelated components that constitute handwriting raises the question of the validity of some of the measurement procedures. If the purpose of the teacher or researcher is to study a child's ability to form symbols or letters, then the use of overlays or calculation of percentage of legible letters may be a valid choice of measurement tool (Talbert-Johnson, 1991). If, however, the evaluator's aim is to obtain an overall picture of the handwriting or to examine the components that make the writing legible or illegible, then the use of a checklist or rating scale would be more suited to the task.

2.5 Handwriting Models For Beginning Writers

Prior to this century, children were taught to write in a cursive style. In the 1920's however, the practice of teaching beginning writers a ball-and-stick manuscript became popular. The manuscript model was introduced because it was believed to be easy to read, easy to learn and very similar to the typescript of beginning reading books (Skinner, 1979; Gourdie, 1981). Research into the value of teaching children manuscript has produced conflicting results (Burns, 1982). Proponents of the use of manuscript by students claim that it is fast, legible and does not deteriorate under stress as quickly as does cursive writing (Peck, Askov and Fairchild, 1980; Koenke, 1986). Opponents of the manuscript model assert that it requires the use of stilted movements in the formation of letters and the use of the fingers to produce the writing movements. Neither of these practices is conducive to the development of fluent, rhythmic writing (Thurber, 1983; Gourdie, 1981; Early, Nelson, Kleber, Treegoob, Huffman and Cass, 1976). The flowing movement of cursive writing however, is believed to be an important kinaesthetic experience, which has been linked to automatic functioning (Evely, 1984; Early, et al., 1976).

The belief that young children need to write and read similar type of print in order to avoid confusion is disputed by Ryan (1985) who states that children are well able to process several forms of the same letter, as illustrated by their facility at comprehending environmental print. This claim was tested by Early et al.

(1976) in a study of first grade students taught cursive writing from inception. They concluded that initial instruction in cursive writing does not adversely affect the child's ability to read or spell and does in fact lessen the incidence of letter reversals in writing. This view is supported by Evely (1984) and Skinner (1979) who claim that having to make the transition from manuscript to cursive in Year 3 causes an unnecessary delay in learning at a time when children are attempting to produce more lengthy, creative pieces of written expression.

Alston (1991) concurs that initial instruction in manuscript is unnecessary but also states that joining of letters should not be encouraged until letter formations are well established. Michael (1984) disagrees with this opinion, asserting that joining should occur naturally, when each child is ready to do so. He claims that if the teacher makes an issue out of joining, children distort the links, causing a decrease in legibility. Smith (1987) supports this view in his opposition to a model such as the Victorian Modern Cursive, which includes exit strokes as a part of the letterforms. He states that children "...in attempting to form letters with added hooks, tend to overemphasize the additions and thus distort the letters" (p.28). Grislis (1987), however, believes that the inclusion of entry and exit strokes facilitates the transition to full cursive writing and states "...children visualise letters, not joins, and letters with entry and exit strokes indicate the direction that joining strokes must go" (p.2).

The D'Nealian model of handwriting was developed in the United States by Donald Thurber and this style is now used in parts of the U.S.A. and Canada. D'Nealian script is similar to the Victorian Modern Cursive style in that the beginner's script consists of sloping letters with exit strokes taught as a part of the letter formation. Thurber's (1983) claim that this model promotes a smoother transition to cursive writing has recently been tested by researchers.

Trap-Porter, Cooper, Hill and Swisher (1984) investigated the effects of initial instruction in Zaner-Bloser (manuscript) and D'Nealian, of eleven classes of first grade students to assess whether or not those children who had previously been taught D'Nealian made a more successful transition to cursive writing. Evaluative overlays were used to assess legibility and no significant differences were reported between the two groups. However, the authors point out that variations in teaching style, space-sized paper and the young age of the students may have influenced the results.

Farris (1982) studied the handwriting of first and second grade students over a two year period, comparing the legibility of writing of children who had been taught Zaner-Bloser to those who had been instructed in D'Nealian. The method of assessing legibility was a rating scale based upon fifteen errors and each writing sample was evaluated by a single assessor. Farris concluded that the Zaner-Bloser group produced significantly more legible cursive writing, and therefore that initial instruction in

Zaner-Bloser was more conducive to a smooth transition from beginners' script to full cursive.

A similar handwriting model now commonly used in the United States is Italic Handwriting. It too is designed to promote a more natural transition from beginners' script to cursive through the use of sloping, oval-shaped letterforms incorporating exit strokes. A five-point rating scale was used by Duvall (1984) to evaluate the Italic Writing Scheme in Montana, U.S.A. The criteria for assessing legibility were letter formation, size, slant, spacing and alignment. Writing samples were collected from children of a range of ages who had had varying amounts of instruction in Italic. Duvall concluded that long-term instruction in Italic was beneficial and that those children who had received instruction in three styles (manuscript, cursive and Italic) fared worst of all. The question of validity concerning the maturation of the subjects was not answered in this study. If comparative groups had been from the same age group, the findings could be accepted as more valid and reliable.

Another evaluation of Italic Handwriting by Moilanen (1987) used a four criteria rating scale for judging legibility, as well as a teacher survey to assess their opinion of the ease of transition to cursive writing, their training in the new scheme and the time spent on instruction. The rating scale (based on slope, size, shape and spacing) was used by the judges to give two holistic ratings per sample and the scores for each subject were

averaged. Although holistic rating scales are not deemed to be as reliable as other measures (Graham, 1986), they have been shown to be consistent (Alston, 1983) and, as the same children's writing was compared over a three year period, it may be concluded that the findings were valid. Although this study reported a decline in legibility over the three years, a lack of control group does not answer the question of whether or not these students' handwriting would have deteriorated similarly using another writing model. Nevertheless, the teacher survey revealed positive teacher attitudes toward Italic Handwriting and the author recommended continued use of the system.

2.6 Summary

Much of the early research into the handwriting of children has focussed on the debate over whether manuscript or cursive should be taught to students, and methods of evaluating legibility. More recently, educators and researchers have paid more attention to the process of writing and have investigated the effects of different writing tools, types of paper, instructional techniques, and how children learn to write. Research findings have produced conflicting results and most experts recommend that the teacher examine the needs of the individual and the writing task at hand when choosing appropriate writing tools, paper and style.

Traditionally, methods of teaching and evaluating handwriting have depended more upon standard practice than research evidence. Methods of assessing handwriting legibility have ranged from the use of subjective opinion of overall aesthetic appeal and readability, to correct/incorrect methods using evaluative overlays. Most researchers include the criteria of quality of letter formation, consistency of size, slope and alignment as key indicators of legible handwriting. Writing behaviours such as posture, penhold and hand movement have not been measured quantitatively but have been observed and photographed by some researchers investigating the effects of different penholds and writing implements.

There has been no research on handwriting skill and style in Western Australia and no studies into the effectiveness of initial instruction in the Victorian Modern Cursive style in this state. Studies evaluating similar models in the United States have produced conflicting results. On the one hand, Trap-Porter et. al. (1984) and Duvall (1984) have reported that early instruction in a foundation style, such as the D'Nealian and Italic styles, is more conducive to a smooth transition to cursive writing than use of a manuscript model. On the other hand, Farris (1982) and Moilanen (1987) found that cursive writing was not more legible when the initial handwriting model had been a foundation style. Furthermore, many of the researchers and handwriting experts have maintained that the foundation styles should continue to be adopted for the instruction

of beginning writers (Gourdie, 1981; Grislis, 1987; Evely, 1984; Alston, 1991). Therefore, in the absence of research findings on the effects of the introduction to Western Australia of the Victorian Modern Cursive style, this study sets out to establish whether or not its use as an instructional model is producing more fluent, legible cursive writing at the transitional stage.

CHAPTER THREE

METHOD OF INVESTIGATION

3.0 Conceptual Framework

At present in Western Australia there are children who have been taught the Victorian Modern Cursive style of handwriting since Year 1 and those who have previously been instructed in the manuscript model. This study sets out to compare the fluency and legibility of cursive writing from a sample of children in each of these groups, in order to test the assumption that initial instruction in the Victorian Modern Cursive style facilitates the transition to cursive writing. As children could not be randomly allocated to either of the groups, the design of the study is causal-comparative.

The dependent variables of fluency and legibility were selected for investigation in this study because, as stated by Evely (1985, p. 74), "... for handwriting to be a viable form of expression it must be legible and fluent." This focus on legibility and fluency is supported by statements made by the Ministry of Education ("Policy Proposal", 1990; "Handwriting - Intention To Change Syllabus", 1990; Fennell and Edwards, 1990) and is appropriate to the age and developmental stage of beginning writers. Another dependent variable which is often measured in handwriting research is that of speed of handwriting (Masters, 1987; Duvall, 1984; Ziviani and Elkins, 1986). Speed was not selected for evaluation in

this study due to the age of the children involved. At this level, speed of writing is not deemed to be as important as the development of appropriate writing behaviours and skills (Sassoon, 1990).

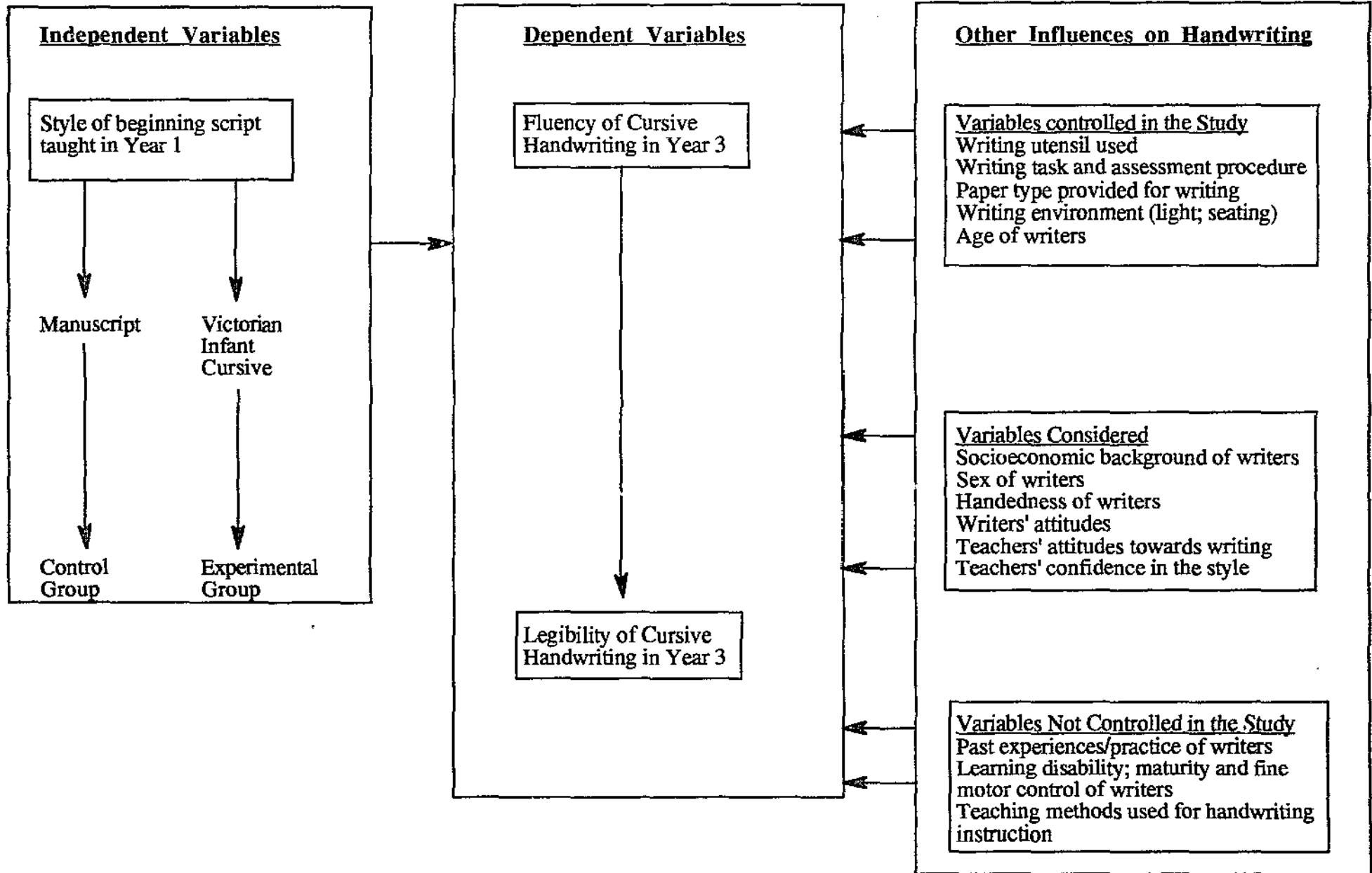
The greatest threat to the internal validity of a causal-comparative study is that the groups under investigation are different due to some variable other than the "treatment" (Gay, 1992; Dooley, 1990). In order to minimize the influence of other independent variables on the dependent variables of fluency and legibility of handwriting, it was necessary to identify these influences (See Fig. 1).

Influences on writing behaviour that could be controlled in the study included the writing implement used, the paper written on, the writing task, the setting and time of day (Holliday, 1988; Sassoon, 1990). By ensuring that these factors were the same for all subjects, any advantage or disadvantage to individual children was minimised.

Variables that could not be controlled by the researcher were the individual characteristics of the children such as sex, maturity, handedness, physical coordination and socioeconomic background. By randomly selecting an equal number of boys and girls, right- and left-handers from schools in similar socioeconomic areas, it was presumed that the normal range of ability and maturity would be included in both the experimental and control groups. The teachers' attitudes, instructional

CONCEPTUAL FRAMEWORK

FIG. 1



techniques and experience could not be controlled in the study but it is recognised that these factors are important influences on the fluency and legibility of the students' handwriting (See Fig. 1).

3.1 Subjects

In order to form the experimental and control groups, suitable schools in similar socioeconomic areas were approached for inclusion in the study. As schools throughout Western Australia are implementing the new handwriting policy at their own rates, they are at varying stages of implementation so did not necessarily qualify for inclusion in the research project. Even though many school principals expressed an interest in the topic and a willingness to be involved, it was necessary to find three schools which had begun implementation of the new model in 1991 with the Year 1 students and three schools which had commenced use of the new model in 1993, with Years 1 and 3 students. Eventually six suitable schools were located in similar socioeconomic areas and permission was sought for the study to proceed.

A random sample of five boys and five girls was selected from each of the six classes of Year 3 students. The sixty subjects were all attending schools in middle class areas of suburban Perth. All of the schools cater for between 100 and 600 primary school students. There were five Year 3 classes and one composite Year 3/4 class. One of the classes was small, with only 21 students, but the remainder contained between 29 and 32 students.

None of the sixty children included in the study was of Aboriginal or Torres Strait Islander origin but several were from Asian and European backgrounds. All of the children spoke English well and none was handicapped or obviously learning disabled. The sample included six left-handed and 24 right-handed children in each of the experimental and control groups. This ratio represents a slightly higher proportion of left-handers than would be expected in the normal population (Masters, 1987). All of the subjects had parental permission to participate in the study.

The six teachers of the classes involved were also interviewed in order to determine their opinions on handwriting and the use of the Victorian Modern Cursive style as a model for beginning writers. All had expressed a willingness to participate. Five of the teachers had been teaching for at least five years, while the remaining teacher, a recent graduate from University, was in a temporary position while the regular class teacher was on leave. The teacher sample consisted of five female and one male teacher.

3.2 Instruments

The fluency and legibility of cursive handwriting were measured using rating forms specifically developed for this study (See Appendix B). Existing scales and checklists for measuring handwriting performance were not employed for several reasons. Firstly, none of the evaluative scales or overlays that have previously been

developed are written in the Victorian Modern Cursive style. The prescriptive nature of correct/incorrect methods using overlays would not be sensitive to the stylistic variations present in the Victorian Modern Cursive model. Similarly, it would be difficult to match handwriting samples that are written in a different style to the models presented in a handwriting scale. The variations in style of cursive writing that are inherently acceptable in the Victorian Modern Cursive model require an evaluative tool which allows for individuality while still being a reliable means of assessment.

Secondly, whilst there have been numerous attempts to measure and quantify legibility, there have been no procedures formulated for the objective assessment of fluency of writing behaviours. Researchers who have investigated aspects of writing movement and behaviour have typically photographed (Sassoon, 1990; Ziviani and Elkins, 1986) or observed and noted activities (Maloney, 1986).

The Fluency Rating Form (See Appendix B) was based upon the recommendations of Sassoon (1989) and Holliday (1981). In order to define the 20 checklist items on which fluency of writing behaviour could be assessed, it was necessary to accept the recommendations of handwriting experts in terms of the most desirable pencil hold, posture and writing movement. The behaviours to be observed and noted were written in clearly observable terms in order to increase the content validity and inter-

scorer reliability of the rating scale. To score the form, the rater ticks the behaviours that are observed while the subject is writing. A point from five is then deducted for each behaviour not observed in each of the four subsections. The result is then a score of between four and twenty for fluency of writing behaviours.

The Handwriting Checklist (Alston, 1983) and the guidelines for the evaluation of handwriting suggested by Evely (1985) provided the basis for the Legibility Rating Form (See Appendix B). When evaluating handwriting, most researchers include the criteria of letter formation, slant, size, spacing and alignment (Fhelps, Stempel and Speck, 1985; Ziviani and Elkins, 1986; Formsma, 1988). The focus of the rating scale developed for use in this study was on consistency of style rather than on strict adherence to a particular handwriting model, in accordance with the recommendation of the Ministry of Education's (1992, p.1) Handwriting Policy Clarification which stated that "Stylistic variations that do not reduce fluency or legibility should be encouraged." A score for aesthetic value or general appearance was not given because this type of evaluation tends to be subjective (Graham, 1982) and is not consistent with the Australian Education Council statement that "handwriting is a basic communication tool with an emphasis on clarity and fluency rather than uniformity and aesthetic values" (Fennell and Edwards, 1990, p. 22).

The criteria for legibility were stated in clearly observable terms in order to increase the validity,

reliability and utility of the Legibility Rating Form. As with the Fluency Rating Form, each criterion not observed was deducted from five in each subsection so the score for legibility was between four and twenty. Before implementation in the study both Rating Forms were tested with a small group of Year 3 students. An independent assessor was asked to score the forms and inter-rater reliability was correlated at .84 for the Fluency Rating Form and .87 for the Legibility Rating Form.

The handwriting task for each subject was the same. It consisted of a copying exercise in which each child was asked to write three short sentences from a card in front of them. The sentences were: I like icecream.

We swim at the pool.

My rabbit is fluffy.

The example was written in the Victorian Modern Cursive style.

A copying task was chosen in preference to a creative writing task because children who are writing creatively often need to concentrate more on the content and spelling of the writing rather than the handwriting (Graham, 1986). A creative writing task would also result in variations in length of writing samples from individual subjects as well as different letter combinations. This may have disadvantaged some writers. The sentences chosen were simple, easy to read and contained most of the commonly written letters and letter combinations. In addition, the four types of joins found in cursive writing: short diagonal, long diagonal, diagonal with curved arch and

horizontal (Alston, 1991) were all included within the writing example.

The Teacher Interview Schedule (See Appendix B) was used in preference to a questionnaire because the sample was small and the results were not intended for statistical analysis. Instead, the teacher interviews were designed to provide further information regarding the effects of the implementation of the Victorian Modern Cursive model in West Australian schools. It was also hoped that any reasons for significant differences between the classes would be revealed in the interviews which were designed to assess the attitude of the teachers toward handwriting and the introduction of the Victorian Modern Cursive style.

3.3 Procedure

In order to maintain control over some of the environmental factors that influence handwriting, all the children were observed and tested in their normal school surroundings (Sassoon, 1990). The subjects were withdrawn individually to a quiet area within or near to the classroom and were seated at a desk. All testing was carried out in the mornings. A brief conversation about handwriting preceded the testing in order to put the child at ease and also to gauge the subject's attitude toward handwriting and his/her perception of cursive writing. The children were asked if they liked handwriting, if they thought cursive writing was easy and if they thought they were good at it. They were provided with a new HB pencil

and sheet of Year 3 lined paper and asked to copy the three sentences on the card. While the child was writing, the observer recorded handedness, posture, pencil hold, paper position and writing movement on the Fluency Rating Form. The writing samples were then collected and individually scored on the Legibility Rating Forms.

The teacher interviews were conducted within the classroom while the students were working at their desks or with another teacher. The interviews were conducted in an informal manner, and were not tape recorded. Responses were not written down verbatim but were recorded in note form. Respondents were able to read the notes made to verify their accuracy. An informal approach to the interviews was taken in order to increase the teachers' confidence of confidentiality and anonymity. Two of the teachers had expressed concern that they were being evaluated on their teaching ability and it was important to dispel this feeling in order to obtain honest opinions.

CHAPTER FOUR

RESULTS

4.0 Introduction

In this chapter the results of the study are reported in five sections. The first section deals with the variable of legibility of cursive writing in order to answer the first research question posed in Chapter One which is:

"What is the difference in the legibility of cursive writing between a group of children who have been taught Victorian Modern Cursive beginners' script since Year 1 and a group of Year 3 children who have been taught manuscript since Year 1?"

The second section responds to the second research question, dealing with the fluency of writing behaviours and reports the findings of the research with regard to the differences between the two groups on this variable. The differences in legibility and fluency of cursive writing between the individual class groups are also reported in these first two sections.

Section Three explores the effect of two other variables which could influence the results and conclusions of the study. The variables referred to are those of sex and handedness of the subjects, with the scores of boys and girls, left- and right-handed children in both groups being compared and discussed.

The fourth and fifth sections of the results chapter report the qualitative data collected in the study. Firstly the attitudes of the children toward handwriting and their perception of their ability and the difficulty of cursive writing are reported. In the final section the results of the teacher interviews are discussed in reply to the third research question which is:

"What are the attitudes of the teachers to the Victorian Modern Cursive style? Do they believe initial instruction in this style facilitates a smooth and easy transition to cursive writing?"

4.1 Legibility

Sixty individual scores for legibility of cursive writing were collated by rating the children's handwriting samples using the Legibility Rating Scale. Group means were calculated and T-tests for independent samples were applied to the raw scores to determine whether or not differences between the experimental and control groups were significant. Table 1 displays the comparison of the groups on legibility of cursive writing, and on the criteria of letter formation, spacing, size and alignment, and slant and joins.

Table 1

Comparison of Group Means on Legibility

n = 60

Variable	Experimental Grp	Control Grp
Legibility	13.70	12.13 *
Letter formation	4.43	4.07 *
Spacing	3.50	3.20
Size & Alignment	2.17	2.17
Slant & Joins	3.60	2.70 **

Note. * results significantly different, $p < .05$
 ** results significantly different, $p < .001$

Legibility was found to be significantly different between the two groups, with the children in the experimental group producing more legible cursive handwriting than those in the control group [$t(58) = 3.25, p < .05$]. Further analysis revealed that the children who had been learning the Victorian Modern Cursive style since Year 1 produced better letter formations [$t(58) = 2.61, p < .05$] and significantly better slant and joins [$t(58) = 4.22, p < .001$] than the children who had previously been instructed in manuscript. Furthermore, as can be seen in the results reported in Table 1, the experimental group performed slightly better than the control group on the criterion of spacing and the two groups were equal on the criterion of size and alignment.

The mean scores of the individual class groups were examined in order to determine if particular classes performed better than other classes within the experimental and control groups.

Table 2

Mean Scores of Class Groups on Legibility
n = 60

	Experimental			Control		
	A	B	C	D	E	F
Legibility	13.2	13.4	14.5 *	13.1	11.4	11.9
Letter Form.	4.4	4.1	4.8 *	4.2	3.8	4.2
Spacing	3.5	3.2	3.8	3.3	3.1	3.2
Size/Align.	1.7	2.5	2.3	2.2	1.9	2.4
Slant/Joins	3.6	3.5	3.7	3.4	2.6	2.1

Note. * indicates score is significantly different from the other scores on the same line, $p < .05$.

An analysis of variance (Scheffe Test) of the individual class groups showed one class from the experimental group (Class C) produced significantly more legible cursive handwriting than any other class group ($F = 1.2791$, $df = 4.88$, $p < .05$). Upon closer examination, it was found that Class C produced significantly better

letter formations than the other classes ($F = .3582$, $df = 4.88$, $p < .05$) but on the criteria of spacing and size and alignment, the classes were not significantly different. On the criterion of slant and joins, the analysis of variance also revealed that the scores of children in Class F were significantly lower than those of the children in each of the Classes A, B, C and D. This result is not reported in Table 2 because its representation with asterisks is confusing due to the fact that the mean score of Class F is significantly different from the means of Classes A, B, C and D but not from the mean of Class E.

In order to discover possible reasons for the class differences, the responses to the teacher interviews were examined. It was found that the teacher of Class C (the highest scoring class) had reported that when introducing letterforms to the children, she had modelled the formations to each individual on their page. This practice may have been the reason why her students subsequently produced significantly better letter formations than any other group. This result would support the recommendations of the Victorian Ministry of Education video (1987) which advocates small group or individual tuition of letterforms in preference to whole class instruction from the blackboard.

The teacher of Class F, which produced significantly lower scores on the criterion of slant and joins than Classes A, B, C and D, reported in the teacher interview that she disliked teaching handwriting and was not

confident in this area because she is left-handed and "not creative". It may have been that this teacher's lack of enthusiasm and confidence in handwriting lessons affected the performance of her class on this criterion.

In contrast, the teacher of Class D, which performed better than any of the other control group classes on slant and joins, responded in the interview very positively toward handwriting and toward the Victorian Modern Cursive style. This teacher stated that he believed that handwriting was an important component of the primary school language arts curriculum, that he enjoyed teaching handwriting and that he regularly spent two hours a week on handwriting instruction. The teachers of the other two control group classes, however, both said they did not enjoy teaching handwriting and they only spent one hour at the most on handwriting lessons. The link between teacher attitude and students' handwriting performance reported in this study confirms the findings and recommendations of Sassoon (1981), Masters (1987), Manning (1988) and Holliday (1981) who document the effect of teacher attitude on their students' handwriting legibility.

4.2 Fluency

The group means for the sixty individual scores for fluency of writing behaviours were also calculated and the results were submitted to a T-test in order to determine if differences were significant. Table 3 displays the comparison of group means on fluency of cursive writing.

Table 3

Comparison of Group Means on Fluency of Writing Behaviours
 n = 60

Variable	Experimental Grp	Control Grp
Fluency	15.17	14.9
Posture	4.23	4.17
Pencil hold	3.27	3.17
Paper position	4.43	4.20
Movement	3.17	3.4

It was found that there was not a significant difference in fluency of writing behaviours between the control and experimental groups, although the experimental group achieved a slightly higher mean (\bar{M} = 15.17) than the control group (\bar{M} = 14.90). Similarly, although the difference between the groups on each of the criteria for fluency (posture, pencil hold, paper position and movement) was not significant, the experimental group performed slightly better on each of these subsections.

With respect to class differences in fluency of writing behaviours, no two class groups were significantly different. Furthermore, the class group means were not polarized into the two groups (control and experimental).

4.3 Sex and Handedness

The results of both groups were examined to determine whether the variables of sex or handedness had affected the outcomes. Tables 4 and 5 display the mean scores of girls and boys, left- and right-handed children for legibility and fluency of writing behaviours.

Table 4

Mean Scores of Girls and Boys

	n	Fluency	Legibility
Girls			
experimental	15	15.3 (2.0)	13.7 (1.2)
control	15	14.8 (1.4)	11.9 (1.9)
Boys			
experimental	15	15.0 (1.6)	13.6 (2.1)
control	15	15.0 (1.7)	12.4 (2.0)

Note. Figures in parentheses are standard deviations.

Table 5

Mean Scores of Left- and Right-handed Children

	n	Fluency	Legibility
Lefthanded			
experimental	6	16.0 (1.4)	13.2 (1.5)
control	6	14.8 (1.9)	12.5 (2.0)
Righthanded			
experimental	24	15.0 (1.8)	13.7 (1.7)
control	24	14.9 (1.5)	12.0 (2.0)

Note. Figures in parentheses are standard deviations.

It was found that the scores of boys and girls were not significantly different. Similarly, the performance of right- and left-handed children was not significantly different in either group. As the experimental and control groups contained the same number of boys and girls and right- and left-handed children, neither sex nor handedness can account for differences between the two groups.

4.4 The Children's Attitude

When asked their thoughts on handwriting, 35 (19 from the experimental group and 16 from the control group) out of the 80 children said they liked handwriting and 19 (10 from the experimental group and 9 from the control group) said they found it easy. Ten children from the experimental group said they found cursive writing was difficult because "the joins are hard" while only five children from the control group expressed concern about cursive writing. This information seems surprising given that one of the main reasons for the adoption of the Victorian Modern Cursive style was to facilitate the joining of letters at the transitional cursive stage. However, the children were asked an open-ended question regarding the difficulty of cursive writing and were not questioned about joins specifically so the fact that forty five children did not mention joining may be because those individuals were not worried about this aspect of the writing skill. Furthermore, children in Year 3 are being taught the process of joins usually for the first time and the unfamiliarity of this skill may cause some children to think more about it, resulting in a readiness to comment when asked about handwriting.

Most of the children said they only used cursive writing during handwriting lessons, with many adding that they had to receive the teacher's permission to write in cursive during other class activities. Calculation of the correlation of individuals' positive or negative attitude toward handwriting to performance on the Legibility Rating

Scale revealed no correlation between the child's attitude and the legibility of his/her cursive handwriting. Many of the children were reluctant to express an opinion about handwriting, saying "I don't know" or "not sure", although all subjects were willing to complete the task. This response may have been reflective of a generally ambivalent attitude toward handwriting or it may have been that the children were rarely questioned about this area of their school work and they were unsure of how they should respond.

4.5 Teacher Interviews

The teachers of the six classes involved in the study were interviewed to establish their attitudes toward the Victorian Modern Cursive (VMC) model and their opinions on its effectiveness as a style for use in West Australian primary schools. A summary of their responses is presented in Table 6.

Table 6

Summary of Teacher Interview Responses

Class	Experimental			Control		
	A	B	C	D	E	F
1. Handwriting is important	No	Yes	Yes	Yes	No	Yes
2. Enjoys teaching handwriting	No	Yes	No	Yes	No	No
3. Time spent (mins)	15	120	60	120	60	60
4. VMC as style for Year 1	Not good	Not good	Slope hard	Much better	Logical	Too hard
5. Ease of transition	Good	Very good	Good	Very good	Good	Good
6. Compared to other model	n/a	VMC better	VMC better	VMC better	VMC better	VMC better
7. Concerns	None	Paper	Work books	Lack of Inserv.	Paper Books	Lack of Inserv.
8. Inservice training	None	None	None	None	None	None
9. Inservice usefulness	n/a	n/a	n/a	n/a	n/a	n/a
10. Comfort with VMC	Good	Good	Good	Good	Good	Not confident

All six teachers interviewed in the study expressed a positive attitude toward the Victorian Modern Cursive model. Although only two teachers (33.3%) said they enjoyed teaching handwriting, four (66.7%) said they considered this skill to be an important component of the primary school language arts curriculum. The time spent by the teachers on handwriting instruction varied from 15 minutes to two hours per week, with two of the teachers adding that they also taught this skill incidentally as the need arose during other lessons. One of the teachers from the experimental group said she found handwriting lessons very tiring as she usually modelled the letterforms to each child. This class was the group who produced significantly more legible cursive writing than any other class group (See Table 2).

All six teachers believed that the students in their classes were making the transition from beginners' script to full cursive easily: two of them (one from the experimental group and one from the control group) saying "very easily" and the remainder "fairly easily". Although four of the teachers believed that the Victorian Modern Cursive model was difficult for beginning writers (in Year 1), all felt that instruction in this style facilitated the transition to cursive writing (in Year 3).

Concerns with the implementation of the Victorian Modern Cursive model in Western Australia centred around the lack of adequate support for the teachers in terms of inservicing and resources, rather than concerns with the style itself. None of the six teachers interviewed had

received any inservicing preceding the introduction of this style to the school where they taught and three of the teachers stated that this had made initial adoption of the change in handwriting policy very difficult. Three of the teachers had seen a video about the Victorian Modern Cursive style in their own time and two of the teachers expressed a keen interest in learning more about appropriate teaching strategies for the new model.

The lack of appropriate materials, in particular the lined paper divided into thirds, was another major cause for concern for the teachers interviewed. Three of the teachers (50%) stressed that this paper was essential for satisfactory instruction in the Victorian Modern Cursive style and that the paper was not available in the school until well after the school year had begun. Copybooks and charts for the demonstration and practice of the letterforms were also deemed to be essential by three (50%) of the teachers interviewed in this study.

All but one of the teachers interviewed said they felt confident in modelling the Victorian Modern Cursive style in front of the children. The teacher who said she did not feel confident with the new style added that she was uncomfortable modelling any style of handwriting as she is left-handed and "not creative". One of the teachers in a school that had only just begun instruction in the Victorian Modern Cursive style the year in which this study was undertaken, reported that her attitude toward the Victorian Modern Cursive style had changed from being

very negative at the beginning of the year to being very positive by the end of the year. The reason given for her change of opinion was that she had seen for herself the ease of transition from beginner's script to full cursive and now believes that the Victorian style allows for a more natural transition to cursive writing than was possible with the manuscript model.

4.6 Summary

Thus, in answer to the first research question which sought to determine the difference in the legibility of cursive writing between a group of children who have been taught Victorian Modern Cursive beginners' script since Year 1 and a group of Year 3 children who have been taught manuscript since Year 1, it was found in this study that the children who had been learning Victorian Modern Cursive since Year 1 produced significantly more legible cursive handwriting than those who had first learned manuscript. Specifically, the experimental group were significantly better than the control group on the legibility criteria of letter formation, slant and joins. Of the six classes tested, one class group performed significantly better than all other class groups and it would appear that this class benefited from the individual demonstration of letterforms provided by the teacher.

In response to the second research question which sought to discover any differences between the groups on the variable of fluency of writing behaviours, it was found that the groups were not significantly different on

fluency of writing behaviours. Furthermore, the variables of sex and handedness did not affect the results of this study, as evidenced by the lack of significant differences between the writing of girls and boys, right- and left-handed children.

In response to question three which investigated the opinions of the teachers with regard to the use of the Victorian Modern Cursive style in West Australian schools, it was found that the teachers' attitude toward this handwriting model was positive. Although the majority of teachers expressed the belief that this style is difficult for Year 1 students to master, all expressed the opinion that initial instruction in the Victorian Modern Cursive style facilitates a smoother transition to cursive writing in Year 3. The major concern of the teachers with regard to the adoption of a new handwriting model was that its introduction had not been accompanied by the provision of adequate inservice training and resources in the form of the lined paper divided into thirds, student workbooks and charts.

CHAPTER FIVE

DISCUSSION

5.0 Introduction

In this chapter, the results of the study are discussed in relation to the research questions posed and in the light of other research findings and recommendations. The possible influence of variables other than those controlled in the study are also mentioned in order to put the results and conclusions into the context of the wider population and setting in which the study was conducted. Finally, the implications of the research are discussed, with particular reference to the way the change in handwriting policy was implemented in this state.

5.1 Legibility of Cursive Writing

The results of this study support the hypothesis that children who have begun handwriting instruction in the Victorian Modern Cursive style produce more legible transitional cursive writing than children who have first learned manuscript. Of the four criteria used to evaluate legibility, the experimental group performed significantly better on letter formation, slant and joins. These results therefore, support the belief that early instruction in the letter formations and slant that will be used in the cursive writing style in later years is beneficial.

This conclusion is supported by the information provided by the teachers interviewed. All of the teachers who had had experience teaching handwriting using the manuscript to cursive model believed that the Victorian Modern Cursive model was more conducive to a smooth transition to cursive writing. The results of the study also confirm the prediction of Gourdie (1981) and Evely (1984) that children who have been instructed in a foundation style, such as the Victorian Modern Cursive, will make the transition to cursive writing more easily than children who have first learnt a ball-and-stick style of beginner's script. This claim is partly based upon the belief that children who have learned the letterforms and slant required for cursive writing to the stage of automation can then concentrate their efforts on the task of joining the letters together when they are ready to do so. Furthermore, in this study, the children in the experimental group performed significantly better on slant and joining than those in the control group. This would indicate that the act of joining the letters together was not difficult for children who had previously been writing using sloped letters with exit strokes. This conclusion is supported by Grislis (1987) who stated that the early learning of letters which contain entry and exit strokes facilitates the transition to full cursive writing, but is in opposition to the belief of Smith (1987) that letters containing exit strokes are distorted by young writers.

The desirability of a handwriting model that builds upon the previous knowledge and skill of the students was

a major reason for the adoption of the Victorian Modern Cursive style by the West Australian Ministry of Education ("Policy Proposal", 1990). The findings of this study support the case for the continued use of such a model, as was also recommended by Duvall (1984) in her evaluation of the Italic Writing Scheme in Montana. She concluded that the practice of changing the handwriting style during the primary school years impeded legibility. This claim is supported by the results of this study in which children who have had to change to a different handwriting model in order to write cursively did not produce as legible writing as those who have been instructed in the same model for the same length of time.

The similarity of scores of both groups on the criteria of spacing and size and alignment is not surprising if the components of the handwriting process, irrespective of style, are considered. As stated in "Issues To Be Dealt With" (1990),

The rules that govern our writing system, the direction of writing, the movement of the basic letters and the height differentials that are essential to later legibility, as well as the spacing between letters and between words are common to all models, and far more important than any specific shape, slant or proportion of letters (p. 4).

Both the manuscript and Victorian Modern Cursive beginners' script require uniformity and regularity of size, spacing and alignment in order to be considered legible. Similarly, although the letter shapes may vary depending upon the style used, the proportion of the

letters remains the same. That is, one unit letters, such as a and e are one unit letters in manuscript, cursive and Victorian Modern Cursive, and so on. Hence, by Year 3, the children would have had enough practice reading and writing letters in order to consistently write them using the appropriate spacing, proportion and alignment.

5.2 Fluency of Writing Behaviours

The lack of significant difference between the control and experimental groups on the variable of fluency in this study does not support the hypothesis that early instruction in the Victorian Modern Cursive style produces more fluent cursive writing. This finding however, is contingent upon the criteria used to define fluency in this research. In this study, fluency was defined as being measurable through the rating of behaviours which reflect the process of writing (i.e. posture, pencil hold, paper position and movement). As the expert recommendations for appropriate habits in these behaviours are the same for all handwriting styles, the findings of this study suggest that children are instructed to adopt these desirable habits, whatever style of handwriting they use. That is, whether the children are being taught to write in manuscript or Victorian Modern Cursive makes little or no difference to the instruction in the posture, penhold, paper position and movement advocated by the teacher.

In reference to the claim by Gourdie (1981) that the use of a foundation style, such as the Victorian Modern Cursive, promotes greater fluency than early instruction in the more stilted ball-and-stick style of manuscript the findings of this study do not indicate that this is the case. It would have been expected that the experimental group would have achieved a higher score on the "movement" section of the Fluency Rating Form as they had been trained in a style that emphasized the downward movements of cursive writing. The findings however, were the reverse of what was expected, with the control group performing slightly better on this criterion. Although the difference is not statistically significant, it is interesting to note that this is the only section in which the control group performed better than the experimental group. Therefore, Gourdie's presumption that early instruction in manuscript impedes fluency because it develops a stilted handwriting movement, is not supported in this study.

It is recognised however, that the skill of producing letterforms with a downstroking movement and appropriate directionality needs to be taught (Michael, 1984; Jarman, 1990). It then becomes important that teachers of young children constantly remind and reinforce the correct movements and letter formations in order for these to become automatic behaviours. As the children in this study were not observed in their normal handwriting lessons, nor were they studied from the time they started learning to write in Year 1, it cannot be ascertained if they did in

fact learn these behaviours adequately. Furthermore, the teachers may not have emphasized the correct letter formations and demonstrated them appropriately but may have allowed children to copy handwriting exercises from the blackboard or a workbook without giving adequate attention to the correct starting positions and directionality of the letters.

Finally, if a different set of observable behaviours to measure fluency had been developed for use in the study, it is likely that the results would reflect the emphasis of those criteria. A definition of fluency based upon the speed of handwriting for instance, may have produced different results from those reported in this study. Future research measuring the speed of cursive writing of older children who have been instructed in the Victorian Modern Cursive style compared to those who first learned manuscript would provide evidence of one of the long term effects of early instruction in a foundation style.

5.3 Other Influences on Fluency and Legibility

In this study, the possible influences of the type of paper, writing utensil, writing task, setting and time of day were all taken into account and kept constant for all subjects. The child's posture, positioning of the paper, penhold and writing movement were all taken into consideration through the use of the Fluency Rating Scale. The absence of a significant difference between the groups on these variables demonstrates that these factors cannot

account for differences between the groups on legibility. Similarly, the inclusion of the same number of girls and boys, left- and right-handed children in both groups and the absence of significant differences in the performance of these subgroups illustrates that these variables had little, if any effect on the results of the study.

Other variables which may have affected the results include those factors related to the children themselves. The children's past experiences with handwriting, as well as their fine motor control, learning ability, attitude toward school, general health and family background would inevitably affect how they perform on writing tasks (Graham, 1986). However, as all subjects were randomly selected from schools in similar socioeconomic areas, it is assumed that the normal range of ability and attitude is included in both the experimental and control groups.

Only one of the sixty children tested in the course of this research expressed any concern about completing the task, saying "I'm no good at this" and "Are you going to show this to my mum?" Once assured of anonymity however, she was happy to complete the exercise. The other 59 children seemed to be unruffled by the testing situation, most seeing it as an opportunity to be freed from the classroom activities for a short time. As the task was a simple copying exercise, for which there was no time constraint, none of these 59 children expressed any anxiety about their ability to complete the activity satisfactorily. Further studies requiring children to

write their own composition, thus necessitating recall of letterforms and writing conventions whilst also thinking of the subject matter, would perhaps produce different results from those reported in this research project.

5.4 The Teachers' Attitudes

The influence of the teacher's instructional methods on learning outcomes was not measured in this study but may have affected the performance of the students on the writing task. The teachers revealed some of their attitudes and teaching practices in the interviews and these comments provide possible reasons for the differences in the performance of individual classes. For instance, the significantly more legible handwriting produced by the students of Class C (see Table 2) may have been the result of the teacher's practice of individually modelling letterforms to each child during handwriting lessons. Similarly, the relatively poor performance of the children in Class A may reflect the negative attitude toward handwriting expressed by the teacher of that class and the small amount of time spent on handwriting instruction (see Table 5). Future research which observed more closely the instructional practices of the teachers would provide more information on the possible link between the teacher's attitude and style to the children's output in terms of fluency and legibility of handwriting.

The relationship between teacher attitude and student performance is not clearcut in this study but it is

possible to draw some tenuous conclusions. For instance, the two teachers who believed that handwriting is important and also enjoy teaching it spend the longest amount of time on handwriting instruction (see Table 5). Although this extra teaching time and very positive attitude of the teacher of Class D produced the highest scores in the control group classes, a similar link cannot be found for Class B in the experimental group. The superior results produced by Class D in comparison to the rest of the classes in the control group may also be partly due to the smaller number of students in that class: there were only 21 students in Class D, compared to 29-32 children in each of the other classes.

The teacher interviews also revealed a concern by the teachers over the inadequate provision of inservice training and resources when the handwriting policy change was introduced to schools. Despite recommendations to the Ministry of Education specifically outlining the need for the adequate provision of resources and information, none of the teachers interviewed had received any inservice training on the Victorian Modern Cursive model. All of the teachers believed that this situation was unsatisfactory when a policy change was being implemented as they lacked the appropriate knowledge and skill to confidently implement the change in their classrooms. Four of the teachers interviewed expressed a keen interest in receiving more inservice training on appropriate teaching methods for the Victorian Modern Cursive model. Three of the teachers had viewed a video and sought information in

books but all felt that this was insufficient and that a more comprehensive inservice session should have been provided. These teachers' views confirm the predictions and findings of Grislis (1987), "Issues To Be Dealt With" (1990) and the "Summary: Research into Victorian and South Australian Handwriting" (1989) which all stress the importance of informative, practical inservice training to impart the necessary knowledge and skills to teachers when a new handwriting model is introduced.

The other major cause for concern for the teachers was the inadequate provision of paper divided into thirds and appropriate workbooks for the children to use. Three of the teachers interviewed believed that the special lined paper was essential for effective instruction in the Victorian Modern Cursive style, particularly at the Year 1 and Year 3 levels, when new concepts were being introduced. All of the teachers believed that the children could more easily produce legible handwriting when the paper provided for them to write on was divided into thirds.

This view is contrary to that of Koenke (1988) and Gourdie (1980) who maintain that children have enough to contend with when learning to write without adding alignment to the task. Research by Pasternicki (1987) and Yule (1987), however, showed that the provision of lines assisted children in achieving consistent size and proportion of letters. The teachers interviewed in this study maintained that the lined paper divided into thirds was essential for the Victorian Modern Cursive style,

which employs three unit letters that are two thirds the size of the three unit letters in the manuscript model. By providing the children with paper divided into thirds, the teachers claimed that the children could easily determine the correct starting points for letters and the appropriate proportion and size of letters.

The necessity for parents to be fully informed of the change in handwriting style and to be given information and instruction in how to model the correct letter formations was emphasized by one of the teachers interviewed. This teacher, who had taught the Victorian Modern Cursive style to children in Year 1 and Year 3 stated that parents demonstrating the letter formations incorrectly had hindered the progress of their children. It is therefore essential when introducing a new handwriting style, that parents be provided with a chart illustrating the new letterforms, including the correct starting points and direction of movement. The "Summary: Handwriting in Victoria and South Australia" (1989) included a recommendation that schools provide information to parents through newsletters or inservice sessions. This would also be important in order to explain the reason for the change so that parents could feel secure in the knowledge that such a policy change was beneficial for their children.

5.5 Implications for Practice

The major implication of the findings of this study is that teachers and parents can feel confident that the change in handwriting model used in West Australian schools has not impeded their children's writing development. Indeed, it is more likely to be an improvement on the previous system of beginning instruction in manuscript and changing to a different cursive style two years later. The significantly more legible cursive writing produced by those children who had been learning the Victorian Modern Cursive style since Year 1 indicates that the transition to full cursive writing in Year 3 is made easier by the nature of a model that allows for the development of skills based upon previous knowledge and practice. These findings confirm the predictions made by handwriting experts around the world and will encourage those who sought to change the handwriting practices of West Australian schools in order to bring them into line with current trends around Australia.

The implication of this study for educational administrators is the need for the adequate provision of resources and information when a policy change is being introduced to schools. Expecting teachers to change their own handwriting style and teaching methods without the provision of adequate training, information and resources, has made the implementation of the policy change very difficult for these teachers. The need to properly inform teachers of the rationale behind a change in handwriting

policy and model is well documented ("Issues To Be Dealt With", 1990; "Summary: Research Into Victorian and South Australian Handwriting", 1989; Grislis, 1987). Moreover, the failure to do so can impede the effective adoption of the new model. The provision of appropriate personnel and resources to facilitate a smooth transition to a new handwriting policy is the responsibility of the Education Authority, and also the administration of each school and should not be left up to individual teachers to organize ("Issues To Be Dealt With", 1990). Despite the apparent lack of appropriate inservice training and provision of resources reported in this study, it appears that teachers view the Victorian Modern Cursive model positively and recognize its benefits as a style for use with West Australian children.

CHAPTER SIX

CONCLUSION

6.0 Limitations of the Study

It is acknowledged that the findings of this study have limited generalizability due to the small, non-random sample employed. In addition, other factors may apply in rural or remote areas which are outside the scope of this study. Nevertheless, the significant difference in legibility of cursive writing between the group of children who had been taught the Victorian Modern Cursive style since Year 1 and those who had previously been instructed in manuscript illustrates a trend resulting from the policy change in metropolitan Perth. The particular difficulties faced by learning disabled children and those from non-English speaking backgrounds have not been addressed but would provide interesting topics for future research.

Similarly, due to the small sample size, the results of the teacher interviews cannot be taken as reflective of the total teacher population in Western Australia. However, they represent the opinions and experiences of a group of primary school teachers who have had first hand experience of the recent policy change in handwriting. The interviews also provide information regarding the teachers' personal views on handwriting and instructional practices, thus suggesting possible reasons for the differences in handwriting between the six classes

included in the study. A more widespread distribution of the interview schedule, perhaps in the form of a questionnaire, would provide more data on the beliefs and practices of a larger number of teachers.

6.1 Recommendations

The results of this study support the case for the continued use of the Victorian Modern Cursive model in West Australian schools. The significantly more legible cursive writing produced by those children who had been learning the Victorian Modern Cursive style since Year 1 suggests that the transition from beginners' script to full cursive writing is made easier when a foundation style is used. Furthermore, the teachers' unanimous belief that the use of the Victorian Modern Cursive model facilitated a smooth transition to cursive writing confirms the predictions made by handwriting experts worldwide on the benefits of a model based upon the Simple Modern Hand.

The teacher interviews revealed some areas for improvement on the part of the Ministry of Education and school administrators when introducing a new handwriting style. Firstly, the provision of comprehensive inservice training for all teachers involved should be mandatory in order to ensure that teachers gain the necessary skill and confidence to teach the new style effectively. Secondly, all schools should have available adequate resources in the form of paper, charts and workbooks before instruction

is to begin in the new style. Finally, it is recommended that parents be fully informed and shown the new style so that they can correctly demonstrate the letterforms to their children at home. These recommendations could apply to the introduction of any new policy or program in the school system. Teachers should not be expected to change their teaching methods or subject content in any area of the curriculum without the provision of support through expert personnel, inservicing and resources. By ensuring that these are provided, the Education Authority not only encourages the effective implementation of the new policy but also promotes in teachers, students and parents the understanding that the change has been worthwhile.

In addition, it is recommended that evaluation and monitoring of student outcomes be carried out when a new handwriting model has been adopted. As stated in "Issues To Be Dealt With" (1990) "A good authority will always be on the lookout for ways to improve the system that has been introduced " (p. 5). This view is echoed by the "Summary: Research into Victorian and South Australian Handwriting" (1989) in which it was recommended that evaluation and monitoring of standards should be carried out within the first four years of the adoption of a new model. By doing so, any problems with the implementation, such as a lack of appropriate resources or difficulties faced by individuals or minority groups within the school can be attended to. Adequate monitoring of student outcomes would also lead to suggestions for teachers regarding instructional techniques, use of materials and

teaching sequences. Difficulties with specific aspects of the handwriting model, such as the teaching of slope and certain letters to young children could be overcome through the provision of relevant information and support personnel.

6.2 Future Research

This study sought to investigate the effect of the use of the Victorian Modern Cursive as a handwriting model in a group of average West Australian primary school classrooms. The effects of this policy change have not been evaluated for children who are learning disabled or from other educationally disadvantaged backgrounds. Nichol (1981) states that the practice of teaching children manuscript initially then changing to cursive writing in Year 3

... is detrimental to the learning disabled child who may as a result always experience difficulty with cursive writing (p.18).

For this reason, and also because the flowing rhythmic movement of cursive writing is believed to be of benefit to the learning disabled child, Larson and Serio (in Early, et. al., 1976) both recommend that such children be taught to write in cursive from the beginning of Year 1. Research that compared the writing of learning disabled children using the different models would suggest the handwriting style that would be the easiest for these children to master to the stage of fluency and legibility.

One of the reasons cited for the inadequacy of the previously used manuscript to cursive model was the tendency of secondary school students to revert to manuscript when under pressure ("Policy Proposal", 1990). The deterioration of legibility when students are pressured to write quickly was also a cause for concern (Curriculum Research Branch of Victoria, 1960) and it was hoped that the introduction of a foundation style, such as the Victorian Modern Cursive, would equip children with a fluent, automatic style of handwriting which was less likely to become illegible under these conditions. Whether the change in handwriting model will prove to be of long-term benefit to West Australian children remains to be seen when these students reach secondary school. Hence, a longitudinal study that investigated the handwriting legibility and speed of these children who have been instructed in the Victorian Modern Cursive model since Year 1, in the late primary and secondary school years would serve to prove or disprove its long-term worth.

In this research, the children's handwriting was evaluated under controlled testing conditions, in order to isolate the variables associated with the transition to cursive writing. A comparison of the children's creative writing however, would reveal the differences, if any, in the amount and content of writing of children who have been taught using the two different models. Experts have stated that the use of a foundation style enables children at the Year 3 level to write more lengthy, interesting stories without having to think about the mechanics of

performing the writing movements (Gourdie, 1981). Future research evaluating the effects of the use of the Victorian Modern Cursive model on children's creative writing would confirm or refute such a claim.

The teacher interviews in this study revealed some interesting information about teachers' attitudes towards handwriting and the introduction of the Victorian Modern Cursive style to Western Australia. The link between teacher attitude and student outcomes has been researched with conflicting results (Peck, Askov and Fairchild, 1980; Sassoon, 1990). Future research which not only measured student performance but examined the teachers' attitudes toward handwriting and its instruction would reinforce the importance of the teacher's perception in relation to student outcomes.

Similarly, research that examined more closely the instructional techniques used in handwriting lessons would test the experts' recommendations regarding the most effective methods for the teaching of handwriting skills. The recommended teaching strategies for the Victorian Modern Cursive model, as seen in the instructional video produced by the Victorian Ministry of Education (1987), focus on small group or individual tuition. Research that not only determined if teachers are using these strategies but also measured their effectiveness, would assist curriculum writers in developing an appropriate syllabus, teacher's notes and student materials.

6.3 Summary

The results of this study confirm the assumption that children who have been taught a foundation style of handwriting from Year 1 produce more legible cursive handwriting than those who have begun instruction in manuscript. Teachers and parents of West Australian children can feel confident that the adoption of the Victorian Modern Cursive style in this state has been a worthwhile exercise.

Although it appears from this study that the use of the Victorian Modern Cursive model does not improve the fluency of writing behaviours, future research examining the effects of this change on the writing of older children may confirm the prediction that the use of a foundation style will promote greater fluency and legibility of writing when under the pressure of speed and stress. Similarly, future studies which evaluate the suitability of this model for use with learning disabled children would provide more information regarding its wider use in the educational system.

Recommendations for further action include the evaluation of the effects of this change in handwriting policy in terms of student outcomes and the teachers' instructional practices. Although most schools in Western Australia have begun instruction in the new style, it would appear that not all teachers have been adequately trained to effectively teach the model in the way it was intended to be taught. It is therefore not too late to provide meaningful inservice training courses and also to

ensure that preservice training of primary school teachers includes the necessary information on the style itself and appropriate teaching strategies. Ongoing evaluation of teaching practices in the light of current research can only improve the standards of teaching and consequently the standards produced by students in our schools.

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APPENDIX A

HANDWRITING STYLES

1. Handwriting styles taught in Western Australia prior to the policy change of February, 1990:

Western Australian Manuscript

Western Australian Cursive Script

2. The handwriting styles now recommended for use within West Australian schools:

Victorian Infant Cursive

Victorian Modern Cursive

Western Australia Manuscript

a b c d e f g h i j k l m

n o p q r s t u v w x y z

A B C D E F G H I J K L M

N O P Q R S T U V W X Y Z

Western Australia Cursive Script

Aa Bb Cc Dd Ee Ff Gg Hh Ii

Jj Kk Ll Mm Nn Oo Pp Qq Rr

Ss Tt Uu Vv Ww Xx Yy Zz

0 1 2 3 4 5 6 7 8 9

VICTORIAN
INFANT
CURSIVE

abcdefghijklmnop

qrstuvwxyz

vwxyz

clown sailing boat
sheep cyclone tyre.

VICTORIAN
MODERN CURSIVE

abcdefghijklmnop

qrstuvwxyz

fox burst little
effort knee quokka
job away

A B C D E F G H I J K L

M N O P Q R S T U

V W X Y Z

- The foundations of joined handwriting
- Developing automatic handwriting
- Extending joining to speed loops
- Printing for labelling

APPENDIX B

DATA COLLECTION PROCEDURES

1. Legibility Rating Form
2. Fluency Rating Form
3. Teacher Interview Schedule

Legibility Rating Form

Name

Class

In each section deduct a point from 5 for each characteristic not present in the writing sample.

LETTER FORMATION: Letters begin at the top (not the base).
The majority of letters are complete.
Most letters are easily recognizable.
Letter shapes are not distorted.

Score

SPACING: Spacing between letters is consistent.
Letters are spaced between 0.5 and 1.5 cms apart.
Words are spaced between 1 and 5 cms apart.
Spacing between words is consistent.

Score

SIZE AND ALIGNMENT: Single unit letters all the same size.
Two and three unit letters are balanced and in proportion.
Words within the same sentence are the same size.
Letters are placed on the baseline.

Score

SLANT AND JOINS: Letters are slanted no more than 20 degrees.
Letter slant is consistent.
Joins between letters are from the appropriate exit point to the appropriate entry point.
Joins between letters are not pointed or basin-like.

Score

TOTAL SCORE

Fluency Rating Form

Name

Class

In each section, deduct a point from 5 for each behaviour not observed.

POSTURE: Both feet flat on the floor in front of the writer.
Back straight, not slumped or leaning to left or right.
Head held up, eyes looking down to work.
Both forearms resting on the table.

Score

PENCIL HOLD: Tripod grip: pencil held between thumb and middle finger, index finger on top of pencil.
Hand relax
Writing arm closer to the body than the pencil.
Non-writing hand holds paper.

Score

MOVEMENT: Letters are started at the top, downstroking.
Letters are formed in the appropriate direction: clockwise or anticlockwise.
Penlifts occur every 2 to 3 letters.
Hand moves across the paper smoothly.

Writing arm closer to the body than the pencil.
Non-writing hand holds paper.

Score

MOVEMENT: Letters are started at the top, downstroking.
Letters are formed in the appropriate direction: clockwise or anticlockwise.
Penlifts occur every 2 to 3 letters.
Hand moves across the paper smoothly.

Score

TOTAL SCORE

TEACHER INTERVIEW SCHEDULE

1. Do you consider handwriting to be an important area of the primary school language curriculum?
Why/why not?
2. Do you enjoy teaching handwriting?
Why/why not?
3. How much time do you spend on handwriting instruction a week?
4. What do you think of the Victorian Modern Cursive style as a handwriting style for beginning writers?
5. How easily do you think the children in your class are making the transition from beginners' script to full cursive writing?
6. Have you taught Year 3 children in the past to write in a different cursive style?
If yes, how do you think the styles compare in terms of enabling children to make a smooth transition to cursive writing?
7. Do you have any concerns about the Victorian Modern Cursive style as a handwriting style for use by young children?
8. How much inservice training did you receive when this style was introduced in Western Australia?
9. Did you feel that the inservice training was effective and adequate in preparing you to teach this style?
Was there anything that you think should have been done differently?
10. How comfortable/confident do you feel writing in the Victorian Modern Cursive style yourself?

Any further comments?