PERCEIVED TEACHER EFFECTIVENESS AND PSYCHOLOGICAL TYPE

AN EXPLORATORY STUDY OF NEW ZEALAND TEACHERS

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ABSTRACT

This study sought to establish whether perceptions of teacher effectiveness were influenced by individual personality.

A questionnaire to establish teacher views was designed through research and consultation with other teachers, piloted initially with a preliminary group of ten teachers, then redesigned in the light of these responses. The questionnaire was designed to obtain information on demographics, theoretical perspectives, educational contexts, working comparisons, and individual preferences related to sociability, perceiving, cognitive processing, decision making, action and organisation, perceptual openness, interpretative preferences and management and discipline preferences. It was named the Teacher Effectiveness Questionnaire (TEQ).

A Likert-type 1-5 scale was used for rating responses from the TEQ and the resultant data factor analysed resulting in four factors which were given the titles:

Responsiveness; Professional Teamwork; Planning and Management; and a bipolar factor of Practical Experience versus Theory (hereinafter termed the Theory Factor).

Teacher personality was determined by the Myers Briggs Type Indicator (MBTI).

The 147 teachers who took part were all primary school based, ranging from principals, senior staff, teachers of reading, and scale A teachers. Each dealt with children within the range of New Entrant to Form II, (approximately 5 to 13 year old pupils).
Of the sample 38 were males and 107 were females.

Significant differences, in views of effective teaching were found by age, gender and personality types. Sensing types were found to hold strongly different views on Responsiveness and on Theory . Teamwork, Planning and Management were found to be less affected by personality and more by contextual elements. Responsiveness was found to differ according to age.

Educational implications were explored.

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Chapter 1

INTRODUCTION

A teacher's task is to educate, to improve knowledge of the new and enhance the old. In doing so teachers have always recognised quality in teaching, aware, sometimes implicitly, sometimes openly, of the beliefs they hold and the knowledge they have of a task being done.

> Teachers have welcomed the setting-up of a special taskforce to recommend ways to improve teacher education. A recent Minister of Education, Phil Goff this week announced the taskforce would identify key attributes of quality teachers, make recommendations on teacher training, identify the implications of the open access tertiary growth policy for teacher training institutions and examine in-service teacher training.
> (The Northern Advocate, Oct. 27, 1990)

While teachers often recognise colleagues' expertise, actual recognition of an effective teacher may not depend upon specifics as much as on generalised awareness that children are being well served. This perception and that recognised in the statement above is not new. Teacher Effectiveness has always been of wide interest to the general public of New Zealand and to teachers themselves. Within the 'Tomorrow's Schools' regime it has become of even greater significance as principals and staff have become accountable at a local level through Boards of Trustees, and at a national level through the Education Review Office and the Ministry of Education. Any focus on effectiveness must therefore take into account the wider context as well as the culture of the school itself.

Central to the ability to provide quality education for children is the part teachers play in the process. Certainly the personal views of teachers constitute one of the bases on which child achievement rests. Opinions about educational achievement within the present primary school scene in New Zealand are diverse and criticism of teachers is

often heard among the public. This phenomenon is, of course, not limited to New Zealand. Lanier & Little (1986, p. 536) note,

> Contemporary dissatisfaction with the intellectual performance of America's students and teachers has filled the popular press as studies reporting low test scores and other school problems have renewed interest in the qualification, competencies, expectations, and attitudes of those who teach.

Reports such as 'The Curriculum Review' (1986), and 'Education to be More' (1988) have arisen from similar perceptions of concern in New Zealand.

One current educational debate revolves around accountability using bureaucratic business models in schools, and the subsequent necessity of seeing that everything is carried out with maximum economy and efficiency (Rizvi, 1989). This focus on quantifiable outcomes is considered by some to reflect a questionable educational philosophy. For example Carr (1989, p. 13) objects on the grounds that such "means-end and fact-value distinctions, on which bureaucratic rationality depends are both epistemologically untenable and morally objectionable".

Then again, many of the difficulties in achieving teacher effectiveness lie simply in the number of students to deal with and the amount and nature of interaction required to produce learning. One method of dealing with this is to individualise programmes as far as possible to improve instructional methodology and evaluation. This study focusses on such an approach and uses an internationally recognised instrument - the Myers-Briggs Type Indicator (MBTI) (Briggs Myers & McCaulley, 1985) - to determine differences in teachers' approaches and draw out varying perceptions of effectiveness.

A further aim is to determine whether these perceptions vary from individual to individual in relation to Psychological Type, concentrating on teachers of children from the 5 - 12 year range, with

classes up to Form II. After this point, the transition to Secondary School occurs and is beyond the parameters of this study.

In adopting the MBTI, this study recognises this instrument as one operational definition of Psychological Type. According to Myers-Briggs and McCaulley (1985), the types interpreted through the MBTI have constitutional and environmental roots which are dynamic and developmental, avoiding the criticism of being ill-suited to the sophistication of modern psychology. Newman (1990) notes that the MBTI as an interpretation of Jung's theory, is based on the observations of people, and correlates highly with other accepted and respected instruments, thus providing strong construct validity. Furthermore, the MBTI provides information which can be given directly to the teachers making it of use both to the researcher and to the subjects. Finally it has a huge data base in many fields, but more importantly for this study, has a significant amount of material specifically to do with teachers and teaching from the pre-school to the tertiary level. Thus it is an ideal instrument to use in this research.

In this study, the terms personality type, Psychological Type or more simply, type, will be used interchangeably to refer to the the classification given under the Myers-Briggs Type Indicator (MBTI). In no case should the term be misinterpreted as equating with a trait which often focusses on a single behaviour, or with a definition of personality which is more correctly applied to the theory underlying the MBTI.

Personality theories

Weiten (1992, p. 424) defines personality as "an individual's unique constellation of consistent behavioural traits", while Belkin and Gray (1977) suggest personality theories fall into three general categories - Psychodynamic, Behavioural and Humanistic. Weiten (1992) agrees with these classifications, but adds Biological and Contemporary views to the perspectives above.

Psychodynamic perspectives focus on the importance of unconscious mental forces in personality, for example in the psychoanalytical theory of personality structure of id, ego and superego (Freud, 1964); the analytical psychological view of personal and collective unconscious, a concern with extraversion and introversion and the need of people to be psychologically healthy (Jung, 1953); striving for superiority (Adler cited in Weiten, 1992); and the search for identity (Erikson, 1963).

Behavioural perspectives study personality as exemplified in observable behaviour. Examples of this approach are Skinner's (1974) account of personality as it is shaped by learning, Bandura's (1977) social learning theory, Mischel's (1968) person - situation specificity, and Piaget's (1954) explanation of cognitive functioning.

The Humanistic perspective emphasises the unique qualities of humans, especially their freedom and potential for personal growth. Examples of this approach are to be found in the focus on self concept (Rogers, 1980), and the theory of self actualisation (Maslow, 1970).

Biological views stress the genetic origins of personality. Thus Eysenck (1967) believes that heritability influences individual differences in how people respond, while Weiten (1992) suggests that research supports the assumption that genetic origins have typically been found to account for 40 - 50% of personality effects. According to Bates (1987) the traditional statement sees temperament with both biological and social aspects consisting of a wide range of individual variations in behaviour.

Contemporary perspectives of personality tend to focus on specific personality traits such as the locus of control (Rotter, 1982), self monitoring (Snyder, 1986), or sensation seeking (Zuckerman, 1979). By contrast, the MBTI is not a trait measurement but a measure of bi-polar preferences according to Jung's theory of psychological type.

A brief description of Psychological Type

In making links between teachers' perceptions of effectiveness and Psychological Type, this study draws indirectly on the analytical psychology of C.G. Jung through the work of Isobel Briggs Myers and using the Myers-Briggs Type Indicator. Jungian Type Theory suggests that behaviour is "essentially orderly and consistent" (Briggs-Myers and McCaulley, 1985, p. 1), and divides conscious mental activity into two perception processes (sensing and intuition); two judgment processes (thinking and feeling); and the extraversion / introversion dimension to refer to the way a person turns outward to act in the world or inward to reflect. This is based on the belief that, "what comes into consciousness... comes either through the senses, or through intuition" (Lawrence, 1982, p. 6).

These preferences are then organised into four bipolar scales (Hirsh and Kummerow, 1987) in which each of the elements is of equal value. The four preferences are:

(a) *Extraversion attitude (E) or Introversion attitude (I).* In the extraverted attitude (E), persons seek engagement with the environment and give weight to events in the world around them. In the introverted attitude (I), persons seek engagement with their inner world and give weight to concepts and ideas to understand events (McCaulley, 1990, p. 183).

The conduct of extraverts is based on the outer situation, while that of introverts is based on inner perceptions. Typically introverts will take time out to consider the options before deciding, while extraverts will look at the specific situation and act without always considering the underlying idea (Briggs Myers, 1980).

Extraverts outnumber introverts by a ratio of at least three to one in the U.S.A., but in New Zealand there is a clear predominance of introverts. Whilst extraverts are more vocal, introverts possess the ability to delve deeply for underlying aspects of situations yet are more reticent by nature as their dominant process is introverted. Briggs

Myers (1980) suggests that one of the ways to deal with this is to develop their extravert auxiliary process component in order to become reasonably comfortable in both their inner and outer world.

(b) *Sensing perception (S) or Intuitive perception (N).* When using sensing perception (S), persons are interested in what is real, immediate, practical, and observable by the senses. When using intuitive perception (N), persons are interested in future possibilities, implicit meanings, and symbolic or theoretical patterns suggested by insight (McCaulley, 1990, p. 183).

Briggs Myers (1980) suggests that for sensing types, evidence from the real world through the senses is valid, while a combination of stimuli is used by intuitives to make leaps toward a conclusion often leaving unexplained the process by which such a point was reached.

Proportionately, intuitives make up less than one fourth of the population of the United States, but are frequently found in academic school courses, where tests and examination systems tend to favour such a character tendency. Intuitives may be more comfortable in areas such as research or teaching faculties, while sensing types are likely to be accountants and statisticians (Briggs Myers, 1980).

(c) *Thinking judgment (T) or Feeling judgment (F).* When using thinking judgment (T), persons rationally decide through a process of logical analysis of causes and effects. When using feeling judgment (F), persons rationally decide by weighing the relative importance or value of competing alternatives (McCaulley, 1990, p. 183).

Thinking and feeling are both methods of decision making. Thinking uses logic to find the truth but risks being devoid of human considerations, while feeling is based on discrimination by the allocation of personal value to the variable under consideration. According to Briggs Myers (1980), the thinking / feeling preference is the only process which shows a marked sex difference as there are more women who are feeling types than men.

(d) *Judgment (J) or Perception (P).* When the orientation toward

> the world uses judgment (J), persons enjoy moving quickly toward decisions and enjoy organising, planning and structuring. When the orientation to the world uses perception (P), persons enjoy being curious and open to changes, preferring to keep options open in case something better turns up (McCaulley, 1990, p. 183).

Briggs Myers (1980, p. 69) states, "Judging types believe life should be willed and decided while perceptive types regard life as something to be experienced and understood." Thus teachers should consider how their own preferential style is impinging on that of the students. If, with a strong judging preference, they finalise class and staff discussions and draw them to early conclusions, they may be restricting those with a perceptive preference who are more concerned with finding out the 'why' and 'what' of the situation. Conversely, a preference for always seeing the underlying possibilities may restrict reasonable courses of action being taken (Briggs Myers, 1980).

In the case of the judgment / perception dichotomy, it is the natural or customary attitude toward the outer world which reveals the person's true preference. In extraverts the extraverted process is the same as the dominant process, while for introverts, this extraverted process is subordinate to the introverted dominant process (Briggs Myers, 1980).

The initial letters I (Introversion), E (Extraversion), S (Sensing), N (Intuition), F (Feeling), T (Thinking), P (Perception) and J (Judging) will be used throughout this study to describe elements of Type.

Dominant and auxiliary processes

In each component, one process becomes dominant through personal choice, additional use and practice until it is more controlled than the others (Briggs Myers, 1980). McCaulley (1988, p. 2) states, "Every person uses all eight processes... but type theory postulates that one of each pair is intrinsically preferred over the other". Each person nevertheless needs to foster an alternative or auxiliary process (McCaulley, 1982) away from the dominant's domain to develop a balance of character. Using polar opposites, a perceptive and a

judgment process can thus be used reliably. "If the dominant process is a judging one, the auxiliary process will be perceptive... If the dominant process is perceptive, the auxiliary process will be judgmental" (Briggs Myers, 1980, p. 12). In this way the auxiliary process works as a supplement to the dominant.

This balance is important as it allows the dominant process to carry out the most important function for the person concerned. The auxiliary provides needed extraversion for introverts and introversion for extraverts (Briggs Myers, 1980), but it also provides a balance between perception and judgmental processes.

The shadow side - the inferior process

The shadow side or inferior process is always the polar opposite of the dominant process (Briggs Myers, 1980). As it is underdeveloped, such a process makes inappropriate or ill considered judgments as a means of "escape from conscious personality and in defiance of conscious standards" (Briggs Myers, 1980, p. 84). This may explain the unusual or untoward behaviour exhibited by a person on odd occasions when contradictory or inferior results are shown.

For effective teachers, the challenge is not to allow for significant imbalance, but rather to give the opportunity for this process to develop as far as possible. Briggs Myers (1980) suggests this may be achieved by providing outlets that are either supportive or recreational, rather than forcing the child to use the process in situations where inappropriate behaviour is likely to result.

The sixteen types

Briggs Myers (1989) suggests the initial way to find type preference is to begin with the perception preference mode. From this point separate groups / individuals into the preference for perception by sensing, or perception by intuition, then subdivide the initial groups by selecting the judgment mode - each group member should be selected by the use of judgment by thinking or judgment by feeling. Next separate the

resulting groups for extravert / introvert preference and finally for the perception / judgment preference. When the auxiliary process is considered, sixteen types result from the varying combinations (Briggs Myers and McCaulley (1985). These are more fully described in appendix 3, however, their short descriptions are as follows:

ESTJ - Extraverted thinking with sensing as auxiliary
ENTJ - Extraverted thinking with intuition as auxiliary
ISTP - Introverted thinking with sensing as auxiliary
INTP - Introverted thinking with intuition as auxiliary
ESFJ - Extraverted feeling with sensing as auxiliary
ENFJ - Extraverted feeling with intuition as auxiliary
ISFP - Introverted feeling with sensing as auxiliary
INFP - Introverted feeling with intuition as auxiliary
ESTP - Extraverted sensing with thinking as auxiliary
ESFP - Extraverted sensing with feeling as auxiliary
ISTJ - Introverted sensing with thinking as auxiliary
ISFJ - Introverted sensing with feeling as auxiliary
ENTP - Extraverted intuition with thinking as auxiliary
ENFP - Extraverted intuition with feeling as auxiliary
INTJ - Introverted intuition with thinking as auxiliary
INFJ - Introverted intuition with feeling as auxiliary

This typology provides the base for the Myers-Briggs Type Indicator (Lawrence, 1982), where individuals empathise with and claim one type. Thus while temperament studies have tended to focus on a narrow range of traits generally resulting in classification by an outside theorist, the MBTI uses Jung's theoretical base to consider individuals in a wide ranging, holistic yet highly individual manner in a process in which the subject is personally involved (Briggs-Myers and McCaulley, 1985).

This is a significant point, for both the questionnaire and the MBTI deal in perceptions about an individual's views and behaviour, rather than observed or behavioural data. While it is an approach that makes

it possible to get a very personal view of teaching and personality, results depend on the honesty and willingness of the participants to share such material. In the current context, this appears a valid methodology as it is the perceptions that teachers hold about effectiveness which are the focus and the over-riding research concern for this study is how the effects of Psychological Type impact on teachers' own individual and personal views of effectiveness.

This study then seeks to answer the following questions:

> **Do teachers' perceptions of teacher effectiveness vary as a function of Psychological Type? If so how, and what implications does this have for education?**

The study appears to be exploring a new area in attempting to answer these queries. While there is a wide range of material available on the subject of teacher effectiveness, and an equally broad range on the Myers-Briggs Type Indicator (MBTI), there appears to be none which has attempted to link teachers' *perceptions of effectiveness* with the MBTI. This study will attempt to carry out that task.

Overview

Chapter Two reviews the literature related to the elements of effective teaching, links with the theory of Psychological Type and concludes with a number of hypotheses. The general findings from this chapter provide the basis for the questionnaire.

Chapter Three describes the research methodology, outlines the data collection processes and provides an overview of how the study proceeded.

Chapter Four presents the results from the Teacher Effectiveness Questionnaire and the MBTI. It details the demographic information, the Factors related to teacher effectiveness and personality type implications.

Chapter Five discusses the findings and addresses the issues related to these.

Chapter Six summarises the findings, addresses the hypotheses and the research question, and investigates the educational implications. The study concludes with the limitations of the study and further research possibilities.

Chapter 2

REVIEW OF THE LITERATURE

Perceptual differences related to background of teachers

One of the roots of differing perceptions of teacher effectiveness lies in the selection and training of teachers. The recruitment of capable teachers can only improve Education (Brophy and Good, 1986), yet within the American system, only 11% of the highest scoring as opposed to more than 38% of the lowest scoring graduate students undertook teacher education (Vance & Schlechty, 1982).

In following this course, teaching appears to be an occupation being frequently staffed from the least academically oriented graduate students in the United States. Despite concerns raised by such a trend, Barclay (1980) argues that the attempt to attract 'clever' people into the ranks of teaching is blatantly elitist and counter-productive to the cause of good education. This same point was supported by Hogben cited in Harte (1972, p. 38) as early as 1907 when he stated, "...the passing of a certificate examination is a very small part of what should be required".

In strongly asserting the irrelevance of particular levels of attainment prior to teaching, Barclay (1980) nevertheless does not attempt to argue the value of increased ability or education for teachers' college students. Instead his concern is for the attitudes that he feels are likely to be engendered by the employment of such people or programmes, highlighting the potential impact of the perceptions that people bring to the teaching environment.

Bourdieu (cited in Nash, 1993) has pointed out that the particular cultural capital held by any given group will affect the life chances of those within that group, thus academic testing will tend to discriminate against particular classes or cultures.

Despite this assertion, testing is an accepted part of gaining teacher qualifications in America. Here the Core Battery of National Teacher Examination Programme (NTE) contains three sub tests used for teacher certification related to reading, writing and listening ability; knowledge in diverse subject matter areas; and knowledge of topics generally taught in professional education courses. However Schurr et al. (1993, p. 26), question the reliability of such tests stating, "scores do not predict on the job performance...whether or not such tests should be used for teacher certification is a controversial topic." This is also supported by Schivley (1983) who investigated the use of the Minnesota Teacher Attitude Inventory and the Scholastic Aptitude Test, and concluded that neither was valuable as a predictor of success in elementary school teaching.

Nor are the conditions of teaching particularly appealing. Powell (1976) notes that teachers' conditions of service fared very badly when compared with other professions, while Lanier & Little (1986, p. 539) state, "Practising teachers already know that rewards are few and on the decline, as are opportunities for advancement in educational administration or colleges of education."

If this is the case, those entering teachers' college require a particular reason for doing so, as the structure of the profession would make it unattractive to many. However Lanier & Little (1986) suggest that the programme leading to the teaching career seems to have been designed for individuals from the lower classes who aspired to upward mobility but lacked sufficient family resources.

The Johnson Report (1977) also supports this view when it states,

> Teachers' college selection panels should regard as a prerequisite for college entry a greater measure of personal and social maturity in applicants, and commends the acceptance of older people with experiences broader than those of school leavers. Minimal academic standards should be set, but beyond that should not dominate selection procedures. Rather the personal qualities of the applicant should take priority. These

> could include successful experience in dealing with people, bringing up a family, or involvement in the community. (p. 50).

In recent years in New Zealand, such recommendations have increasingly been utilised, with teachers' college selections varying from those whose qualifications range from experience assisting at pre-school and primary school institutions, to completed degree courses gained by university graduates. This selection method recognises that more traditional selection systems may disadvantage particular societal groups when academic results do not reflect true ability level or the effectiveness of potential performance as teachers.

Thus while having the ability to teach is not the same as actually bothering to do so, as Lanier and Little (1986, p. 542) also suggest, "the ability to teach is not the same as having the opportunity to do so". Teaching then is an occupation where practitioners have great variety in social background, academic attainment and perspectives. Such a combination is likely to be a major contributing factor in the development of widely varying perceptions of effectiveness and differing personality types. Table 1 shows the percentages of personality types found in Elementary Teaching in the United States (Briggs-Myers and McCaulley, 1985).

TABLE 1
Elementary Teachers
in the U.S.A.by Type
(N=804).
Source - Myers-Briggs (1985).

MYERS-BRIGGS TYPE	%	MYERS-BRIGGS TYPE	%
ENFJ	7.21%	INFJ	5.10%
ENFP	10.20%	INFP	4.60%
ENTJ	5.22%	INTJ	2.11%
ENTP	1.49%	INTP	1.49%
ESFJ	12.44%	ISFJ	17.91%
ESFP	5.72%	ISFP	4.73%
ESTJ	8.46%	ISTJ	10.70%
ESTP	0.87%	ISTP	1.74%
		TOTAL	99.99%

Given this variety in Psychological Types, it is hardly surprising that there have been differing perceptions over a number of years as to how the image and quality of teaching should be improved. For instance R.S. Adams (1986, p. 21) sees teacher effectiveness in terms of role requirements. He suggests teacher competencies can be grouped under the headings of, "teaching competencies, organisational competencies, and community competencies".

Another example has been an attempt by teacher organisations to have their members viewed as 'professionals'. The definition of professionalism according to Langford (1978) includes the realisation that professionals have something to offer to the community and the recognition by the community that this is correct. This view sees community and school as a partnership where teacher personality (and thus perceived effectiveness), may be as closely linked to community as to professional expectations. Thus teachers will inevitably be under greater public scrutiny in the future (Kirk, 1988; Renwick, 1979).

Kirk (1988) and Hoyle (1980) both focus on the tasks completed as well as on the personality of the teacher involved. In doing so they define effectiveness as falling into two areas - restricted and extended professionality. Hoyle (1980) suggests the restricted professional is one who is,

> intuitive, classroom-focussed, and based on experience rather than theory, ... not given to comparing his work with that of others, tends not to perceive his classroom activities in a broader educational context, and values his classroom autonomy (p. 49).

In contrast Hoyle (1980) sees the effective extended professional as:

> ...concerned with locating classroom teaching in a broader educational context, comparing his work with that of other teachers, evaluating his own work systematically, and collaborating with other teachers...interested in theory and in current education developments, sees teaching as a rational activity amenable to improvement on the basis of research and development (p. 49).

Peterson (1988) sees good teachers as thoughtful professionals, and suggests the need for researchers to study the teacher's cognition and knowledge which mediate effective teaching. Schon (1987) makes a similar distinction between Knowing-in-Action (the professional knowledge that teachers use), and Reflection-in-Action (the result of considering solutions to a problem situation where the current Knowing-in-Action is inadequate).

Thus effectiveness in these views requires a theoretical and experience base as well as the physical ability to carry out the requirements of the teaching task.

While the concept of professionalism would seem to be a convincing method of ensuring quality and common perceptions of effectiveness among teachers, the notion does not rest easily with some (Gilroy, 1989; Schon, 1987). Indeed, one of the difficulties of attaching the label 'professional' to educators lies in its ability to keep parents away from schools. Barclay (1980, p 20) states, "Many parents are diffident about going to school, which they regard as the professional preserve of the teacher. This is not surprising...by aspiring to professional status, it is working to isolate itself further".

Renwick (1979, p 6) points out that professionals build a good reputation and a client base of private customers by establishing the assumption that "what was good for the profession was also good for the public at large." Thus the term 'professionals' as exemplified in the professions of medicine and law may not be a particularly suitable model for teachers (Grundy, 1989; Kogan, 1989).

Hoyle (1980) argues for the deprofessionalization of teachers suggesting that the functions of teachers are no more crucial to the members of society than many other occupations, and that both the skill required and the need for a systematic body of knowledge have been greatly exaggerated. He concludes that the autonomy claimed for

professionals is a means of avoiding accountability, and the rewards are an exercise in power and prestige by the professions themselves.

Thus the concept of professionalism and the value of theory for pedagogy depend on the perceptions of those involved. Certainly the dichotomy of practice versus theory has been a continuing debate in New Zealand Primary schools. Carr (1989, p. 1) states that, "...it is becoming respectable to believe that educational theory has little to contribute to our understanding of teaching". One of the reasons for such a situation may lie with the way such efforts have been focussed in the past. Adelman (1989) suggests,

> The sad truth is that some academics have hijacked action research, and in an effort to demonstrate direct relevance to classroom practice and efficiency, unwittingly promoted the positivistic and normative stance that is clearly antithetical to furthering understanding of teaching as a practical[1] ethic (p. 179).

However simply continuing to rely on experience is also fraught with the difficulty of failing to keep up with change. Sockett (1989) suggests that in order to deal with such concerns teaching must come to terms with its accountability and research methodology.

This difficulty with the real and the theoretical may well be related to teachers failing to make the connection between technical activity (the knowledge and skills to repeatedly complete a job), and practical activity (which requires making of judgments and development of understanding) (Schwab, 1969).

Theoretical knowledge is perceived as that which is externally produced, research based, and value free, but apparently has little applicability to actual teaching (Carr, 1989). Certainly, in making such a distinction, teachers are missing the possibility that reflective teaching provides a theoretical base for action through consideration of their

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[1] Here Adelman means 'practical' in the same terms as Carr (1989); Grundy (1989); Schon (1987); and Holly & Walley (1989), where this refers to critical analysis of teaching and problem solving - a reflective process.

own work (Schon, 1987). Theory would then follow a problem solving approach rather than being a matter of applying theoretical knowledge provided by experts.

Fourqurean et al. (1988) suggest that on the MBTI scale, Intuitives enjoy apparent advantages in most academic fields. Thus it is likely that at least part of the differing perceptions about the value of theory are a result of the Psychological Type of the teacher.

Towards Improved Instruction

The school as an institution to promote learning has come under increasing scrutiny over recent years as the results achieved in student learning have not always matched community expectations. Despite many structural and philosophical attempts to change, none of these has ever fully satisfied the widely varying criteria required by the rapidly changing society in which today's students and teachers find themselves.

In support of this view, Tharp and Gallimore (1988) suggest that while every society has successfully carried out the education and socialisation of its members for centuries, the school, whose primary function it is to educate has largely failed in this pursuit. They state, "The principles of good teaching are not different for school than for home and community. When true teaching is found in schools, it observes the same principles that good teaching exhibits in informal settings" (p. 27).

Such criticism and continuing changes in curricula have caused teachers to seek improved instructional systems. One response by educationalists was an attempt to measure potential through intelligence testing, with the assumption that this provided a gauge of future individual accomplishment. Concerns with such measures were widely expressed. For example see Olssen (1988); Brown and Ferrara (1985); McKenzie (1988); and Nash (1988). Lawrence (1982)

found difficulty with the narrow definition and focus of intelligence tests, suggesting that particular expressions of intelligence such as intuitive intelligence, were more favoured by such tests than sensory intelligence based on experience and reality.

Such concerns led to a move toward a different view of potential, a concern for the personality type of the individual, and a focus on instruction in the pedagogy of the school. Effective teaching in these latter terms was achieved through tutor assistance of student performance, tasks being accomplished through dual effort and support and independence being provided at suitable times.

Traditionally, assisted performance has been most outwardly obvious in the transfer of language and culture, but is not necessarily the system adopted between teachers and students in schools (Tharp and Gallimore, 1988). This is because being in touch with the learners relationship with the task requires a closeness with both goals and the learners position, a situation made extraordinarily difficult by the pupil-teacher ratios allowed for by today's funding. In addition assisted performance has simply not appeared as a regular feature of a teacher's activity, because of the large perceptual gap that arises from the difference between the conditions of home and school, especially where considerations of intelligence, class and culture interfere and make any bridging exercise difficult (Nash, 1993).

Tharp and Gallimore (1988) argue that there are six means of assisting performance - modelling, contingency management, feeding back, instructing, questioning, and cognitive structuring.

Modelling is the process of offering behaviour for imitation by others, leading to two effects - imitation and incidental / inferential learning. Imitation is a response which occurs as the student copies behaviour and personalises it, while incidental learning is the result of the student interpreting teacher behaviour and internalising it (Good & Brophy, 1991).

Modelling behaviour can demonstrate what an adult would do in a similar situation and provide the children with a real life example of problem solving activity in specific contexts. While it may well lead to a particular teacher's attitudes being reflected in the way the members of the class react to situations, it will also display itself in the way children under a given teacher's influence interact with one another (Alinder, 1993; Good and Brophy, 1973; Good and Brophy, 1991; Nicholls, 1993). Good and Brophy (1973, p. 116) note that, "if there is a discrepancy between our preaching and our practice, students will tend to do what we do, not what we say". Thus, it is the example shown by the model which is powerful, rather than the philosophy which has been openly espoused (Bryan and Walbek, 1970; Schultz & Florio, 1979). Good and Brophy (1973) state,

> In general, the teacher has little hope of inducing positive qualities in his students if he does not model them himself. Students rightfully become cynical and resentful when they see a double standard of behaviour (one for the teacher, another for them), or when they see clear discrepancy between what the teacher says and does (p148).

According to Murphy (1992), without an awareness of Psychological Type adults can project their impressions and perceptions upon children, leading to the possibility that the teacher will shape the child to resemble the teacher's priorities rather than helping to develop the child's natural preferences. Thus modelling is more than just situational - it occurs from the first moment of contact with the children and its influences are felt long after the physical presence of the teacher disappears. It is therefore a powerful tool in the hands of the effective teacher (Dinham and Stritter, 1986).

Contingency management - the use of rewards and punishments to follow on behaviour - is essentially positive in nature (Good and Brophy, 1991). Where achievement is broken into smaller stages, the use of contingency management can serve to support the accomplishment of each step. It is a process in which the child and the

tutor retain independence, yet co-operate to achieve the learning goal (Tharp and Gallimore, 1988). Thus in contingent teaching, the amount of assistance given to children during a learning session is adjusted according to the ongoing variation in understanding, and to the nature of the task at hand (Good and Brophy, 1991).

Feedback assists performance (Good and Brophy, 1991; Tharp and Gallimore, 1988) enabling the learner and the tutor to recognise the relationship between means and ends and benefit from a knowledge of the results by gauging progress toward the goal (Wood, Bruner and Ross, 1976; Tharp and Gallimore, 1988). The success of the process is therefore dependent on the tutor and learner being prepared to modify their behaviour in the light of interactions with each other so that the task becomes achievable. In all cases feedback is only useful when compared to specific standards or goals, and unambiguous when utilised (Wood, Bruner and Ross, 1976).

Instructing is more consistently used in educational contexts for assigning tasks and matters of control and discipline, rather than in assisting the performance of the next specific act (Cazden, 1986). Nevertheless, instructing is important in the educational process. Not only is it economical of time when correctly used, but the instructional voice of the teacher may become the self-regulating internalised voice of students as they begin to take responsibility for their own learning (Tharp and Gallimore, 1988).

Questioning is a further important skill of the effective teacher in that the teacher has the opportunity to further assist performance and raise levels of thinking while supporting the developing efforts made by the child. Ruddell (1992) suggests that questioning can serve the functions of Focussing, Extending, Clarifying, and Raising. These are similar in intent to Cazden's (1986) Preformulators, Reformulators, Enabling the Lesson to Proceed as Planned, Helping Children Learn how to Accomplish an Academic Task and Helping the Teacher Assess their Learning.

Questions usually elicit a verbal outcome and thereby reveal the subprocesses the child is utilising in obtaining the response (Good and Brophy, 1991). Such a process is creative for the child, as each answer requires the elimination of erroneous possibilities (Ruddell, 1992). Questions need to be varied and adapted to the situation. Thus thought questions are not necessarily better than fact questions, divergent questions better than convergent questions or higher order questions better than lower order questions. Rather it depends on the goal the teacher is pursuing and the use of a series of questions to stimulate interest (Good and Brophy, 1973).

While cognitive structuring is not a naturally inherited process (Wood, 1988), it is a skill that improves with experience and practice and provides a base for thinking and acting. It is both a varied and useful technique found in many effective classrooms where teachers provide organisers for action within programmes (Good & Brophy, 1991). Cognitive structuring can provide the framework for an explanation to be built on, or metacognitive in approach (Tharp and Gallimore, 1988). By utilising more than one example or more than one approach, it allows for the building of generalisations from specific instances.

If educational practices are geared only to the students' level of unaided competence, that student may be denied the very experience which will provide the greatest possible move forward in learning. With tutor understanding and responsiveness however, students can be led to achieve at levels well above that at which they are currently operating. Brown and Ferrara (1985) suggest that by concentrating on the level a student can reach with aid, it should be possible to achieve levels of success not previously envisaged by the student or the teacher.

This requires a tutor with awareness and skill to instruct the learner in the acquisition of the required knowledge, and carried out through the

adult assuming as many of the strategic functions as are necessary to carry on (Tharp & Gallimore, 1988; Wood, Bruner and Ross, 1976).

While it is often argued that not all experts can teach, a novice is even less likely to do so (Neal, 1976). Brophy and Good (1986, p. 370) state, "Although it may be true that most adults could survive in the classroom, it is not true that most could teach effectively". Thus teachers need to be experts in their field (Neal, 1976), able to apply well developed skills through good technical practices. With such expertise they are more likely to react quickly and accurately to variations in the organisation and structure of the learning example (Wood, 1988), supporting learning until independent performance occurs on the task.

Where the learner may be unable to reach the overall goal without assistance, the interaction of child and tutor can allow for achievement that could not have been managed by the child alone. This is a social situation, not one simply requiring a given measure of intelligence (Brown and Ferrara, 1985). Learning is then a process in which the child is an active participant (Tharp and Gallimore, 1988).

Wood (1988) suggests that children who are unable to perform a particular task on their own, often succeed when they are assisted by an adult to move from one cognitive position to another of greater complexity. The distance the learner can be assisted to move has termed the Zone of Proximal Development (Vygotsky, 1978). He states,

> "It is the distance between the actual developmental level as determined by independent problem solving[2] and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (pp. 85-6).

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[2] In more contemporary terms, the term 'problem solving' is now understood to mean performance in other domains as well (Tharp and Gallimore, 1988). An individual can thus have many domains of competence affected by factors such as age, intelligence, gender and society.

Critical in this process is the ability to perceive just where in the Zone of Proximal Development such help is needed. Variation is required in assistance as the child grows increasingly independent or shows an increased performance capacity (Tharp and Gallimore, 1988; Wood, Bruner and Ross, 1976). Teaching can then focus on individualised assessment procedures that are both diagnostic and summative, and be at least as interested in the actual process of learning as in the assessed result. The outcome is the discovery of process information relevant for instruction (Johnston, 1986).

Educators are able to take advantage of the Zone of Proximal Development in at least two ways. The first, Shaping, breaks the learning task into a series of steps toward a goal (Tharp and Gallimore, 1988); while the second, - Scaffolding, a notion first developed by Wood, Bruner and Ross (1976), holds the task difficulty constant while simplifying the child's role by graduating the assistance from the tutor. Rosenshine (1992) suggests that although scaffolding can be applied to most teaching skills including reciprocal teaching, it is almost indispensable for teaching higher level cognitive strategies.

According to Wood, Bruner and Ross (1976), the 'scaffolding' process has six functions. These are:

1. Recruitment, or the enlisting of the learners interest in the problem;
2. Reduction in the Degrees of Freedom - reducing the task to the point where the learner was able to cope and to recognise whether the sub-task has been achieved;
3. Direction Maintenance - the maintenance of movement toward the selected on-task behaviour;
4. Marking Critical Features - the pointing towards discrepancies between correct and incorrect material by marking;
5. Frustration Control - the ensuring that the tutor provides a secure environment in which the child can experiment and experience both success and failure;
6. Demonstration - the modelling of the correct solution or even the modelling of an extension toward the solution from the learners present position (p. 98).

At all times it is the teacher's task through interaction to provide assistance at the correct level and time to ensure that student functioning is improved rather than impaired (Wood, 1988; Tharp and Gallimore, 1988; Brown and Ferrara, 1985). Tharp and Gallimore (1988, p. 41) note, "Once independent skill has been achieved, assistance becomes interference".

Perceptions of the teaching process must include matching the teaching style to the child's learning style (Lawrence, 1982; Murphy, 1992), a concern with improving a child's academic levels, the building of self esteem, and the growth of responsibility and autonomy (Nicholls, 1993). Teaching behaviours must thus be presented in a manner sensitive to the learning modality of the children, such as oral and written language, although this not the only effective technique. Other cultures do not always allow for questions during a learning process, yet children still learn by doing and observing, skills requiring tactile and internal representation of the task (Brophy and Good, 1986).

In New Zealand, inadequate use of the most suitable cultural considerations may restrict classroom performance for those of differing ethnic origins (Nash, 1993), a "perspective that ignores different patterns of interest among the participants" (Cazden, 1986, p. 446), and one which contrasts with that of teachers in successful schools who had adapted their teaching strategies to match cultural difference (Ramsay et al., 1987).

Murphy (1992) argues that the most suitable way to support the learning modalities of the children is to consider their Psychological Type and modify lessons according to this knowledge. Lawrence (1982) suggests that the single best way for the effective teacher to deal with the different learning styles of the children in the class is to understand the needs of the dominant process. Thinkers are best motivated by the use of logic and organisation, while Feeling dominant types will work best where the teacher is interested in them and the learning material has personal relevance. Sensing types will respond best to a clearly

structured, practical base for learning, while iNtuitives, will operate best where motivation allows for the personal inspiration and imaginations are actively engaged. Sensitive teacher behaviour will always consider differences in their own and the children's type and enable all children to use their best learning mode.

Organisation and Management in the Classroom

Without doubt, one of the most universally held perceptions of effective teaching is that this includes the ability to control children in the school situation (Cohen, 1981; Nicholls, 1993). Good & Brophy (1973, p. 162) suggest that classroom management includes, "the teacher functions variously described as discipline, control, keeping order, motivation, and establishing a positive attitude toward learning among others". Certainly, almost all teachers begin with a strongly positive attitude and vision for their class. However this often turns to a concern for management, a view supported by Nichols (1993, p. 5) when she suggests that all teachers to some extent, "buy into this curriculum of control".

This focus is partly based in the lack of specific training in interactional skills essential for effective teaching or with specific skills for analysing classroom behaviour (Wheldall & Glyn, 1989; Good and Brophy, 1973), and with the logistics of managing and interacting with large numbers of children (Lanier and Little, 1986). Without standardised approaches, teachers are likely to rely on their own view of classroom interaction and manage incidents according to their perceptions of what took place and what action is required. Yet there are wider reasons for the focus on management than this.

The educational debate over the most appropriate type of leadership to exhibit within a classroom is not a recent occurrence. Musgrave (1969), and Lewin, Lippett, and White (cited in Owens, 1981) demonstrated that differing types of leadership resulted in differing behavioural outcomes in children. They found that authoritarian leadership

resulted in resistance and aggressive behaviour, laissez-faire leadership in frustration, lack of purpose, and indecision, while democratic leadership resulted in higher morale and greater achievement. Although the notion of democratic leadership was initially seen as most appropriate in education, difficulties associated with the complex organisational structures in schools, and of clearly defining the term 'democracy', meant that the application of the findings in these settings was only partly successful (Owens, 1981). Thus autocratic punishment systems have been utilised in schools until quite recently.

However the contemporary move away from corporal punishment in New Zealand has meant that teachers have now had to develop different ways to assert authority in the classroom. Biggs and Telfer (1987) suggest that a teacher has five bases of influence -

1. Legitimate power - the perceived right of the person to be influential
2. Reward power - the extent to which a person is perceived as having the right to provide rewards
3. Coercive power - the extent to which a person is perceived to be able to punish others
4. Expert power - the extent of knowledge and skills a person is perceived to have
5. Referential power - the extent to which others identify with a person , (p. 367).

With these spheres of influence a class can be managed using high structure requiring close teacher management and control; and low structure, providing students with many options and maximum autonomy (Biggs and Telfer, 1987). However, in each case the limits are dependent on how much authority the students perceive the teacher to have.

Loss of control of the children may well result in unpleasant or dangerous circumstances, thus there may be a tendency for teachers to show children who holds authority, either because this is believed to be valid, or perhaps to avoid loss of dignity (Wheldall & Glyn, 1989; Smith & Ahmad, 1990).

Teachers with poor control are often perceived negatively by both their communities and peers. In turn, when children are difficult to control, less successful teachers tend to blame outside influences or the home (Ramsay, 1987). Effective teachers by comparison avoid making excuses for failure and have a positive focus on success and achievement for all pupils using innovative or varied strategies to encourage learning (Nicholls, 1993).

Good control contributes to an effective learning situation (Nichols, 1993), although Lawrence (1982) suggests that catering for type preferences will ensure a learning environment more appropriate to the learner's needs. Cohen (1981) and Provost et al. (1987), note that perceptions of the situation will differ according to the Psychological Type of the teacher. Deci et al. (1981) suggest the development of student self esteem occurs in the first six weeks of the school year and does not change markedly after that, suggesting effective teachers integrate rules early in workable systems, "They contributed to order and work accomplishment" (Doyle, 1986, p. 410). Procedures were maintained, problems anticipated early through watching students, clear expectations were held in the given context, and consequences were invoked for behaviour (Doyle, 1986, Wheldall & Glyn, 1989). Mortimore and Sammons (1989) found that where teachers on a staff had a similar approach, progress was positive, a tendency that reversed with inconsistency.

In effective teacher's classrooms this led to a climate which was more positive, reflective of the teacher's own personality and linked with student attitude (Alinder, 1993). However, when improved programmes suffered from lack of commitment to young people and their families, and a scarcity of resources slowed down or stopped their implementation, the outcome for many teachers was a lack of success (Nicholls, 1993).

Appropriate management is not an end in itself. Although effective teaching cannot come about without effective management, neither can it occur without appropriate instruction - one may not exist without the other. Doyle (1986, p. 418) notes that a more appropriate solution to the management / instruction dilemma would "seem to invoke improved knowledge and training in management so that teachers can be free to concentrate on instructional solutions to learning problems".

Teachers and schools which created firm but fair control systems which focussed more on praise than on punishment were more effective than those without this approach (Emmer and Hickman, 1991). Good & Brophy (1973) believe that effective teachers are able to monitor classroom activity as a whole on a regular basis. In this way it is possible to stop minor misbehaviour and inattention without disrupting the activity. This supports Duignan's (1986) view that there should be an orderly and disciplined climate in a work centred environment. Punishment should be appropriate, related to the incident and aimed at rehabilitation (Biggs & Telfer, 1987).

One of the difficulties in this field is that perceptions of effective control can vary according to type. Keirsey and Bates (1978) found that Psychological Type had a bearing on the way classrooms were controlled. They suggest that Extraverted, Sensing and Feeling teachers were more likely to insist on formality and require that students respect their authority - an approach likely to differ from other types. Lawrence and DeNovellis (cited in Miner and Hyman 1988) suggest that generally "E,N,F, and P teachers are often less rule oriented, more student centred, more flexible and more attuned to students' social and emotional needs. Conversely, I,S,T, and J teachers often have higher need for order and structure, are more teacher-centred, and are more concerned with the intellectual development and social responsibility of students." Thus a uniform approach will depend on common agreement rather than an individual interpretation of the correct action.

McCaulley (1988) has noted that some of the most serious misunderstandings come from the difference found between Sensing and Intuitive attitudes. This is epitomised later in the present study in the discussion of Theory versus Experience as an operational base for teaching. With the Sensing persons base in reality, they are more likely to take the experiential side of such a debate, while the Intuitives are more likely to find themselves taking the Theoretical perspective. This is a difficult issue as neither view provides the whole perspective - vision without reality is unlikely to work.

One of the ways teachers find to manage problems is to utilise Behaviour Modification techniques. These often focus on external control for their effectiveness for example favouring obedience rather than responsibility, punishment rather than logical consequences (Alinder, 1993). In this way, programmes seldom assist children to gain control over their own problems. Effective teaching according to Ramsay et al. (1987) includes avoidance of confrontation and punitive measures, while providing firm structures within which children are able to learn to control their own behaviour.

One such solution currently in use is the Assertive Discipline Programme (Canter & Canter, 1976; Evans et al., 1991) which provides a carefully laid down prescription for behaviour control, agreed to and understood by all involved. Where this is used flexibly, it is a worthwhile tool. However, as Nichols (1993, p6) notes, "The strongest appeal may be to teachers inexperienced or insecure about their ability to cope with student misbehaviour. In such programmes, they may find a prescription for the control they lack".

Nichols (1993, p. 8) also found that there were alternative programmes for classroom management and that the best of these had a common attribute - "an innovative approach to designing meaningful, rewarding activities through which students learn ways to fit into their real worlds with less stress, unhappiness and conflict."

She suggests that teachers should model such behaviour as enthusiasm, warmth, giving quiet reprimands and instructional praise, assuming non-threatening physical postures, talking an out of control child down and a depressed student up, responding to lies and handling anger - in short, responding specifically to the learning needs and the Psychological Type of the child.

Teacher expectations and attitudes

When teachers provide a broad outline for students with plenty of work yet allowed for independence and choice, they are more successful than those who do not. High teacher expectations, use of higher order questioning, imaginative or problem solving activities, and teacher communication of enthusiasm were all features of effective classrooms (Ruddell, 1992). Duignan (1986, p. 64) suggests that behavioural change in the classroom is the product of at least three interacting factors - "the curriculum, the behaviour of the teacher, and the behaviour of the student."

In effective classrooms, curriculum materials, instruction and evaluation are all carefully focussed on the objectives the children are expected to learn and most progress was made when lessons focussed around one particular curriculum area, varying in topic and level of difficulty. Thus effective teachers maximise time on appropriate teacher directed activities for learners, rather than paperwork or other non-interactional exercises (Hudgins, 1971). Effective teaching in this view is perceived as being focussed on objectives, or basic skills in a structured, intensive, and uninterrupted manner. These are well planned, content oriented, and teacher directed (Duignan, 1986). In such a situation, a variety of approaches to teaching is taken involving individual, group and class interaction.

Duignan (1986) suggests children reacted positively to a high focus on work, and lessons were more likely to be challenging where feedback was provided. Bates (1987) and Martin (1989) found achievement

correlated highly with the area of attentional control - distractibility, persistence and activity level, while Brophy and Good (1986) add the keeping of good records as an important aspect of teacher planning and assessment. Medley (1980) identified three variables which consistently differentiated between effective and ineffective teachers - learning environment, use of pupil time, and quality of instruction. In these situations, child progress was positive in both personal and social aspects and the class had an atmosphere that ensured maximum communication between teachers and students. Wagemaker's (1993) international study on literacy found that high achievement occurred when teachers read professionally, were involved in inservice training, assigned and checked homework, and maintained an emphasis on meaning in reading.

Glickman (1987) takes a differing view from Duignan. He accepts that the focus on structured, objective based, teacher directed curriculum produces gains in evaluated results. However, he differentiates between what is effective and what is good. He states (1987, p. 624) that, "Effective schools can be good schools, and good schools must be effective schools - but the two are not necessarily the same".

For Glickman, 'goodness' is related to the affective domain, wherein the child's experiences at school are as valid as the programme taught by the staff. He suggests (1987, p. 624), "I strongly believe that the 'effectiveness' movement is unnecessarily restricting the curriculum, narrowing the teaching approach to direct instruction, and controlling teachers by judging them 'on task' only when they teach to specific objectives". The effective teacher in his terms, must move beyond a structured curriculum, to providing the human element of warmth and personal experience for children if learning is to be characterised as worthwhile and a lifelong experience.

Ruddell (1992) supports this view when he suggests that

> Influential Teachers have personal characteristics of energy, commitment, warmth and caring, flexibility, and high expectations of self. They understand learner potential and needs, and place high demands on learners. They are enthusiastic, create intellectual excitement and consider alternative points of view. They are concerned with the student as a person,and attentive to academic problems. Their teaching is concerned with instruction that is logical, strategy oriented and activity based, and they believe in the need to engage students in the process of intellectual discovery (p. 1).

Ryan (1991) adds a further dimension to these findings. He believes that the problem of poor school achievement occurs in part because students lack work and discipline values, and suggests that moral and ethical teachings inspire students to be better scholars and people.

Rosenshine (1970) and Coleman (1977) found enthusiasm to be an important aspect of teacher effectiveness. They identify components of enthusiasm as being rapid speech, frequent movement, gesture, variation in voice, eye contact, appearing relaxed, asking varied questions, and praising frequently.

This finding supports Barrett (1991) who suggests that teachers who preferred E,S,F, and P were more likely to be linked with positive or autonomous environments than other types. In particular SP teachers were likely to be enthusiastic. She states, "The enthusiastic and upbeat behaviour of the ESFP, which represented all SP teachers in this sample, is well documented...The observed behaviour of these teachers was one of exuberance" (p. 11C).

Other studies show teacher attitude can be a determinant of classroom success such as Rowe (1969), Parlady (1969), Doyle, Hancock & Kifer (1971), and Cazden (1988). Each found that child achievement varied according to the tutor's belief in their ability rather than what actually existed. However, while this will not always occur, teacher

expectations can lead to treating students differently causing different outcomes to occur. In accepting these findings Greenberg (1969) suggests that as it is a myth that all teachers will relate to all students equally, it is important that the teacher recognises that that such biases do exist, then take steps to remove them.

Lawrence (1982) goes further than this. He perceives effective teaching in part as allowing for the differences in type in both the teacher and the child occurring in every classroom and the organisation of the teaching situation to support these. His proposal includes catering for four particular student groups - ES, EN, IS, and IN, then adjusting plans for TF and JP preference differences.

Briggs Myers (1985) related optimism to MBTI scales of Extraversion and Intuition. Here outward looking people and those who were able to see future positive possibilities were likely to be more optimistic than Introverted people with a Sensing preference - based in the here and now. She also suggests (1985, p. 222) that extraversion is more likely to be related to optimism as "extraverts are in theory more at home in the world, and thus may report themselves as more competent to cope with its demands:.

Seligman (1991) found it was necessary to look beyond consequences and conditions of environment as the sole means of behaviour change and consider the possibility that an internal mental state and the explanations that people make for the consequences they perceive can affect behaviour. Two principal concepts - Learned Helplessness and Explanatory Style, are central to this theory (Langer & Benevento, 1978; Seligman, 1991). Learned Helplessness is the way one gives up or reacts negatively to a given situation, while Explanatory Style is the way in which one habitually explains to oneself why events happen as they do. Together these two concepts enable an individual to approach and manage the world in a combination of control / dependency, optimistic / pessimistic ways.

In a business setting, optimistic sales people outsell others (Seligman 1991; Ziglar, 1989). According to Wells (1993) this occurs because optimism appears to produce persistence. In contrast, pessimistic explanatory styles have a relationship to depression. Seligman (1991) found that prior to puberty boys were more likely to be pessimistic, while after puberty girls seem to take this approach. Teacher explanatory styles thus have the potential to cause difficulty or promote mental resilience, block or promote success, or even affect the way children or adults perceive one another (Wells, 1993).

Seligman (1991) suggests that there is an underlying issue in this situation. He states,

> If we want people to change, internality is not as crucial as the permanence dimension is. If you believe the cause of your mess is permanent...you will not act to change it. If however, you believe that cause is temporary, you can act to change it. If we want people to be responsible for what they do, then we want them to have an internal style. More importantly people must have a temporary style for bad events - they must believe that whatever the cause of a bad event, it can be changed (p. 52).

The significance for teacher effectiveness is wide ranging. In the Reading Recovery model (Clay, 1985; Clay, 1993), teachers use what is known by the student. This building on positive aspects and the child's strengths rather than weaknesses, contrasts sharply with deficit models of teaching where effectiveness is perceived as the isolation of unknown elements and the teaching of these.

Gibson & Dembo (1984) suggest there are two components to perceptions of teaching effectiveness - firstly the expectation of outcome which reflects the teacher's belief in the teachability of the pupils, and secondly the extent to which the teacher believes it is possible to make a difference.

Teachers who believe they can teach all students in their classes typically persist longer with individual students who are struggling during a lesson, are less critical when students respond incorrectly during a lesson and have greater expectations for teacher performance. In contrast teachers with low efficacy tend to lack persistence when a student is struggling during a lesson, to have lower expectations for students, and to attribute student failure not to the ability of the teacher but to the students lack of ability or poor background (Ashton & Webb, 1986; Emmer & Hickman, 1991; Gibson & Dembo, 1984).

Cruikshank (1984) focussed on relationships between classroom emotional climate and student achievement (negative affect was related to negative gain). Cruikshank (1984) and Flanders (1967) found differences in teacher organisation and approach resulted in different cognitive outcomes (closely structured learning activities were related to low cognitive outcomes; teacher indirectness contributed to growth in higher level cognitive activities; greater amounts of pupil freedom improved achievement on abstract learning tasks). Cruikshank (1984) states,

> The implication may be that different kinds of achievement outcomes require very different teaching styles. It is important for teachers to recognise differences in the cognitive level of a learning objective being sought and to provide teacher directness or indirectness, whichever the objective calls for, in the optimum amount (p. 10).

Alinder (1993) suggests that the high efficacy teachers usually have a warmer, more humanistic climate in their classrooms which is characterised by an individualistic approach, supportive of low achievers and cooperatively based when behaviour is considered. In contrast the low efficacy teachers focus more on "reductive behaviour strategies such as time out, frequent verbal warnings and an emphasis on consequences of students behaviours" (Alinder, 1993, p. 29).

Nichols (1993, p. 9) notes, "Lowered self-esteem in teachers has even been shown to result in smaller academic gains in students over the

course of a school year as compared to the progress made by children taught by teachers with high self-esteem". She suggests that classroom teachers should use eye contact, smile, say the students name and use pleasant words to improve classroom atmosphere. While accepting that it would be simple minded to believe that all teachers have to do is smile to be effective, she notes that where a teacher is having trouble in a classroom, it is these behaviours which are obvious by their absence.

Thus Alinder (1993) is able to state that despite the socio-economic or situational variables, teachers who believe they can make a difference actually do so. This clearly shows that it is the perceptions that the teachers hold that make them more effective and enables them to make a difference for their students.

Teacher Perceptions of Leadership and Responsibility

Schools in which pupils learn more effectively, tend to be those in which the teacher's ability to carry out the prescribed tasks are enhanced by factors only partly within their own control (Mortimore and Sammons, 1989; Prebble and Stewart, 1981). In these situations, the leadership within the school may facilitate or impair opportunity in contexts such as involvement in curriculum discussions, influencing content, and emphasising monitoring of progress. Mortimore and Sammons (1987, p. 7) believe this occurred where "the principal understood the needs of the school and was involved actively in the school's work without exerting total control over the rest of the staff". In an ethnographic study of two schools, Poskitt (1989) discovered that the principal had a key role in culture shaping and as an agent of change, while Wagemaker (1993) found that high achievement in students occurred when the principal encouraged links with the community, evaluated staff, concentrated on pastoral care and promoted professional staff meetings.

Differing Psychological Types are attracted to teaching and leadership positions in elementary schooling, and these perceive their roles differently depending on their type (Lawrence, 1982). However at all levels, Briggs Myers and McCaulley (1985, p. 136) suggest educational administrators included large numbers of the "tough minded TJ types whose great strengths are organisational ability, planning and analysis". For all types there is agreement that the role of the principal is wider than that of an administrator (Caldwell & Spinks, 1988; Ramsay et al., 1987; Goodman, 1985; Stewart, 1980). Just as business managers or directors guide their organisation in achieving objectives, so principals should be directly responsible for the education of children in that school. Prebble and Stewart (1981, p. 15) state, "If the principal allows this task to slip from his grasp he is abdicating this key leadership function of instructional leadership".

Sergiovanni (1984) outlines five leadership forces available to principals which can be used to implement or preserve change in schools. These are Technical Leadership, concerned with sound administration, Human Leadership which uses human resources in effective and supportive ways, and Educational Leadership or using expert knowledge about schooling to develop curriculum etc. Finally, Symbolic leadership involves focussing the attention of others on the school and Cultural Leadership involves the building of a strong school culture. These leadership roles are hierarchical, real excellence only being achieved for the school when Symbolic and Cultural Leadership are successfully implemented.

The extent to which leadership roles are broadly exercised and shared with others is also important in this process (Sergiovanni, 1987). Mortimore and Sammons (1989) suggest that where the Deputy Principal was involved in the key tasks of policy making and allocating of teachers to classrooms, the effectiveness of the school improved. In addition the performance of classroom teachers, usually delegated to senior staff, is often shared by all. Effectiveness is thus determined by

the ability of these people and the personality they bring to such a situation.

Lawrence (1982) suggests that a mixture of teacher types aware of the different characteristics of the students will be better able to serve them educationally, while McCaulley (1988) notes that a knowledge of type leads to better appreciation of differences and more productive teamwork. Even then co-operation can run into difficulties because people of opposite types often disagree on what should be done. Briggs Myers (1980, p. 173) states, "Such disagreements are natural: opposite kinds of perception make people see different aspects of a situation".

Lortie (1969) found that different types of decision making exist which require different decision makers. Where decisions required a quick response and affected the classroom alone they were seen as the prerogative of the teacher. When classroom teachers were involved in curriculum planning, decisions over resources, classes in which they were to teach, policy making and decisions which directly affected them, this contributed to making a successful school (Mortimore & Sammons, 1989; Prebble and Stewart, 1981; Stewart and Prebble, 1985).

Price and Reid (1988), in investigating the relative importance placed upon decision taking processes by principals and teachers, found that participatory decision making was becoming a reality in primary schools. This supports the contention of Nias (1980), Bullock (1980), and Hobbs, Kleinberg and Martin (1979) who found that teachers do not want to participate in every decision that is taken in their school. Instead, where the decision falls outside the specific sphere of either the teacher or the principal, teachers desire joint processes rather than independence.

Perceptions of teaching also vary according to context and influence of type. Strebeck (cited in Hoffman 1986, p. 64) found that teachers preferred an ESTJ principal who would "make the tough decisions and run the school. However they did wish these principals would show

more concern for their own individual feelings and needs". Briggs Myers and McCaulley (1985, p 136) found that all levels, educational administrators had "large numbers of ...TJ types found in samples of executives in business organisations." Nevertheless, they also caution that these same types risk being so caught up in administration that they may overlook the importance of communication and teamwork.

Monitoring teacher effectiveness

Effective teaching does not occur in isolation. While factors within the school affect achievement, outside factors such as the general climate, organisation, management, curriculum, community, teacher and student performance also act to influence the potential effect of a teacher, and how teachers perceive their task. Thus teaching must be seen within the context of the school and its environment (Duignan, 1986; Wheldall and Glyn, 1989; Stewart & Prebble, 1985; Langford, 1989).

In such contexts, monitoring of performance will be of interest to many, and accountability may be required by other interested but non-teaching sectors such as parents and government (Miller & Watts, 1990). In each case societal perceptions of effectiveness will differ according to Psychological Type, interest groups involved, the purposes for the teacher evaluation and the context in which the teaching occurs (Stufflebeam, 1992; Wheeler, 1992; Briggs Myers, 1980).

According to Wheeler (1992) the foundations for teacher evaluation are standards & requirements, teaching outcomes, theories grounded in practice, what teachers are doing and what teachers should be doing. Stufflebeam (1992) parallels this thinking, particularly in his Research Based Indicators for Outcomes.

Views on monitoring tend to fall into general categories. The Improvement of Classroom Teaching model is usually espoused by instructional leaders, curriculum and instruction specialists (Stufflebeam, 1992). In this approach teaching is seen as theory based on a novice - expert continuum where staff development is regular

and usually formative, and evaluations are carried out by trained observers. It is thus a model in which classroom practitioners find themselves the focus of activities and reported outcomes, since administration is only indirectly affected. It may also be one initiated by classroom teachers as it can avoid the difficulties of other assessment-like approaches.

Teachers sometimes have poor perceptions of their own classroom performance because they often have no formal or useful system of being provided with feedback from their classroom performance that is of relevance to them (Cazden, 1986). Good and Brophy (1973, p. 34) note, "Teachers are most likely to change their classroom performance when they are provided with information that shows a discrepancy between what they want to do and what they are doing."

One of the ways effective teachers can do this is through the use of observational techniques such as the Flanders Interaction Analysis system (Flanders, 1967), which provides for the gathering and analysis of concrete data about teacher-student interaction rather than intuitive suppositions about what might be happening, and also allows analysis of the influence a teacher can have (Biggs and Telfer, 1987). Clearly, it is important to focus on specific occurrences or behaviours within the classroom using appropriate methodology and developing conceptual and observational tools to do so. The classroom teacher can then be guided toward what to look for through the use of specific feedback (Good & Brophy, 1991; Good and Brophy, 1973). Briggs Myers (1980) suggests Psychological Types such as ST's are more likely to find a focus on the concrete and real more natural than FP's. Thus supervising teachers should be prepared to support observation using appropriate consideration of type difference.

Usually senior staff assist classroom teachers to evaluate their programmes, although this is not always easy to do. Apart from the senior teacher having to find supervision for their own class, teachers tend to operate in relative isolation from one another and classroom

operation becomes a very individual methodology. Thus monitoring by other staff usually only occurs on an infrequent basis and it is difficult for the supervisor to be really aware of the daily functioning systems within any particular classroom. Despite these problems, Good and Brophy (1991) suggest that teachers were likely to reject the advice given if leaders did not spend enough time in the room to assess classroom activity accurately, were vague in their requirements or appeared to lack expertise in the given field.

This is not to say that teachers wish to avoid responsibility. Professional accountability is usually suggested by teachers and their own professional societies (Stufflebeam, 1992). Typically this stems from the belief that the best way to assess one's effectiveness in carrying out the task is to have such a judgment made by those who are acceptably qualified and in a similar position. However, professional societies do run the risk of being open to accusations of bias and failing to meet the expectations of a less qualified, but involved public.

Administrative Control is a monitoring model often exercised by school administrators. This tends to involve regular evaluation of a teacher's performance by principals or other leaders on an annual or half yearly basis. Such a system is often run in conjunction with or in addition to, the Classroom Teaching model (Wheeler, 1992). Here, evaluations of teacher effectiveness may run the risk of being interpreted as meeting the individual standards of others such as principals and senior staff. However, the administrator retains nominal control over teacher activity by assessment of standards through a formalised and sometimes summative reporting system.

Using Research Based Indicators as a model is often suggested by University based researchers to improve student outcomes (Stufflebeam, 1992). These use hypotheses to reach conclusions, or theories which are interpreted through collected data to find teaching behaviours that correlate best with student achievement. To be

relevant, such results must be able to be translated from this stage into one of development for classroom teaching, so that effective action follows from careful reflection and analysis. (Stewart and Prebble, 1985). Ideally there should be no dichotomy between theory and practice. This point is sometimes missed by those who may take the generalised results and translate them into specific procedures for change; or by particular teachers who resist modification based on theory believing that only experience can provide useful direction.

Nevertheless, it is important that teaching is a planned procedure so that all activities are chosen on the the basis of theoretical understandings held by the teacher. Theories, whether taken from research or experience, relatively systematic and explicit or unsystematic and implicit, should lie behind an educator's daily work (Prebble and Stewart, 1981).

The community, parents, business and higher education authorities tend to perceive teaching and teaching effectiveness as a vital public service, which should be responsible to community and societal needs (Miller and Watts, 1990). The objective of this accountability model is to ensure graduates from educational institutions are employable, competitive in today's economy, qualified for further education and able to teach in a manner which fits their own ideals. Many of the recent changes in New Zealand education have encouraged this type of accountability to a greater extent than ever before.

One of the outcomes from this interest by community groups in education is the suggestion of a Merit Pay System - sometimes recommended by officials to maintain credibility with the public, and very much in vogue in the New Zealand system at the moment. In this view, extra pay is to be given for exemplary performance, stemming from the belief that competition would provide an incentive to better teaching through a career ladder approach - the best teachers are those who have survived the competition. However, this approach can complicate the very evaluation process that is needed to

make such determinations. Redfern (1980) notes a loss of co-operation may occur and ideas may not be shared if individual achievement is the method used to obtain an increase in salary. Stratification of schools is also a likely outcome if salary is determined on a school by school basis (Brett, 1994).

Appraisal systems should be developed correctly and operated in a humanistic and informative fashion. Professional development then, requires the supervisor to appreciate the actual concerns of the classroom teacher and provide specific feedback able to be utilised by the teacher concerned. Community feedback may also be utilised, but made feasible through considered dialogue. In all evaluation systems, more than one base should be utilised. Wheeler (1992, p. 5) states, "A teacher evaluation system can collapse like a building, if it is built on an unsuitable or shaky foundation".

According to Murphy (1992), Psychological Type is likely to affect the value placed on particular aspects of teaching. For example, teachers may tend to relate best to others who most closely approximate their own type. McCaulley (1988, p. 31) states, "Some of the most serious misunderstandings and lack of respect come from the difference between the realistic, practical hands-on S's and the innovative, more theoretical iNtuitives." Thus the perception of what is effective in any classroom may differ from teacher to teacher depending on their type. This means that agreement between supervision and teacher must be clearly understood and negotiated prior to any formal interaction taking place.

Effectiveness in many studies has been defined by student performance on Reading and Maths scores (Gray, 1981; Duignan, 1986). However, such achievement is also related to how school culture identifies and promotes academic success as a goal for pupils (Poskitt, 1989). In addition, Ashcroft (1972, p 106) found that discrepancies between home and school values tend to occur between specific parents and specific teachers leading him to state, "Parents have little hope of training

children in such ways that they can avoid the consequences of disensus or attract the consequences of consensus. Neither parent nor teacher has a way of determining the role expectation of the other".

Therefore support for student success should be partly in the form of staff development activities which promote collegial relationships. Cardno (1988, p 106) suggests that the goal that legitimises professional development in schools is "the effect it can have on improving the learning experiences of the students". Thus administrators, teachers, students, parents, etc., must all have a fundamental belief that values school achievement (Duignan, 1986). Gray (1981) found that effectiveness of both schools and teachers can vary over a given period, suggesting that schools found to be efficient in one year were only about a third as successful in the following year although some teachers were more stable overall.

Schulman (1983) notes that while earlier views on effectiveness were mostly determined by a normative perspective which had clear conceptions about values underlying their view of education, more modern approaches tend to take an empirical view defining good schools by measurable outcomes. He suggests that both have value if the limitations of such research is understood so that it is not applied too broadly or simplistically.

Conclusion

There is considerable literature related to teacher effectiveness, although very little to be found which is focussed on teachers' own perceptions. The material in this chapter attempted this by considering the perceptions that lie behind differing aspects of teaching then linking this material with Jungian Theory as interpreted by the Myers-Briggs Psychological Type.

The first section of the literature examined personal, contextual and ethnic influences in the upbringing, education and selection of

teachers. Perceptual differences related to these topics were concerned with background, theoretical orientation, experience, ethnicity, and involvement with other groups; as well as issues of professionalism such as theory versus practice and attitudes to self improvement.

Part of this material then became the base for the demographic data, while the remainder and the following sections provided the rationale for the questionnaire.

The literature search then examined six points related to assisting instruction for children through use of the Zone of Proximal Development, and by considering individual needs such as ethnic difference and Psychological Type of the student so that learning style was matched as far as possible with teaching methodology.

Issues related to management and control were investigated, with findings varying from the need for teacher directedness to consideration of the most appropriate type of leadership for a classroom. Included was the issue of authoritarian / democratic leadership as a teaching style. Psychological Type was considered to be relevant to teacher style with the finding that E.N.F. and P. type teachers were more likely to be flexible in their approach, while I.S.T. and J. type teachers were more likely to insist on order and structure.

The perception of effective teaching as being responsive to children were also investigated. Attributes of Perceiving and Judging, Thinking and Feeling again played significant roles. The literature also examined the influence of the affective domain and traits such as optimism and pessimism. It was suggested that teacher attitude could influence child achievement, even where conditions for teaching were adverse. Thus the critical factors were indeed the perceptions teachers brought to the learning situation.

Perceptions also influenced leadership. Here it was suggested that particular Psychological Types tended to be found in leadership roles,

and that there was a need to consider others both personally and in terms of value for the school if decision making processes were to be effective. This led to a consideration of monitoring, evaluating and appraisal systems found in schools. Each was examined in terms of the reasons likely to be advanced for their use, the differing groups likely to support their introduction and the validity of normative versus summative approaches.

Throughout the literature, teacher perceptions underlie action or belief. Apart from the material related to the Myers-Briggs Psychological Type, its influence is largely unconsidered, and unexplained. In such a situation, the implementation of MBTI concepts and related procedures would have the valuable dual effect of allowing for the individual differences. Its well tested research base provides a fund of prior knowledge that teachers can use in a classroom situation to better understand the children, themselves and their colleagues.

Consideration of the above aspects led to the following hypotheses:

Hypotheses

1. That as teacher's age and experience increases, more positive responses to children will develop.

2. That Myers Briggs Extraversion function will be positively related to working as a team member;

3. That the Myers Briggs type preferences of Intuition and Perception are more likely to be found in responsive teachers.

4. That those aspects of professional teaching behaviour which are regarded as common elements of professional effectiveness will be less

influenced by personality type. Specifically, views touching on classroom management and professional cooperation will not be significantly related.

5. That knowledge gained and insights developed through understanding Type theory will combine with varying concepts of teacher effectiveness to enhance teachers' abilities to operate within given contexts.

Chapter 3

METHODOLOGY

Research Question

The present study investigates the question:

> **Do teachers' perceptions of teacher effectiveness vary as a function of Psychological Type? If so how, and what implications does this have for education?**

Terminology

In referring to the dependent variable the term 'Effective' has been used. The term is more generic than limiting. It rests on the assumption that some teachers show superior qualities in carrying out their work. With this as a basis, it matters little whether teachers are called 'effective', 'exemplary', 'extended professional' or something else. Some of the discussion which follows in this thesis in fact uses differing terms, in particular that of 'extended professional'.

Design Considerations

This research design incorporates some of Popper's (1963) theory in that it has attempted to eliminate error from conjectures. Initially, the problem identified was that of varying interpretations of effectiveness, held by differing teachers both between themselves and between teacher leaders. The tentative theory followed the thinking of Hoyle (1980) and suggested categories under which attitudes and skills might be found to identify these people. Error elimination was addressed in several ways - triangulation using two exemplary teachers to match their own conclusions against Hoyle (1980), alteration of the number of test items, the use of a staff known to contain talented teachers, and the piloting of the questionnaire within this type of environment.

The question of interviewer bias is a more difficult one. In this study others were used to check against the theoretical base and the pilot study provided participant input occasioning significant revision of

the Teacher Effectiveness Questionnaire (TEQ). However it seems unlikely that there is any such thing as unbiased research. Lather (1986) claims that attempting to produce value-neutral social science is increasingly being abandoned as unrealisable, and is being replaced by social sciences based on explicit ideologies.

In research such as this, the first requirement is to be aware that bias will in fact exist despite efforts to eliminate it. For example, in the formulation of questions, the researcher's own wording will reflect cultural undertones. A better option might be to accept Lather's (1986) view of research as praxis whereby both the researcher and the researched become the changer and the changed. In such a situation there is reciprocity which implies a mutual negotiation of meaning and power. In this situation however, it might preclude advance definition of items. Therefore the best compromise for this quantitative research is the questionnaire.

The questionnaire used in this study, is an amalgam of a wide range of researcher's views as outlined in Chapter Two. Investigated in the questionnaire were concepts related to demographics where qualifications, experience, status and professional interests were examined.

Other themes chosen were related to professionalism, such as the influence of theory versus the value of practical experience, the interaction and liaison between teachers, parents and community, upgrading of individual expertise and appraisal of teaching effectiveness.

A focus on instructional methodology, management, and teacher attitudinal effects followed. Examined in these contexts were the place of direct or indirect instruction, the effect of optimism or pessimism and authoritarian or democratic approaches. Particular emphasis was placed on the teacher's own attitudes as determinants of a warm classroom tone and student success in academic and social contexts.

Management, organisation and discipline preferences were also examined and related to their effects on children.

Views of leadership and responsibility were examined and interpreted in the questionnaire as applying from the perspective of the classroom teacher, senior staff member or principal.

Finally the questionnaire reflected themes related to the monitoring of teacher effectiveness through a concern with assessment of other's teaching, the value of parent input and the place of the Board of Trustees in schools.

As an exploratory investigation, the study did not aim to develop a generally valid teacher effectiveness questionnaire, but to find the main structures in these teachers' perceptions so as to test the existence of type effects. As there is no validated New Zealand measure, the use of another instrument in this study such as the Minnesota Teacher Attitude Inventory, would seem to be erroneous in concept.

Discussions were also undertaken with two teachers from a large neighbouring school who were selected by their principal as being that school's best teachers and closest to the mould of 'extended professional'. These teachers were involved in a loosely structured interview to ascertain their views on the qualities displayed by 'the best teachers'.

The interviewees were also asked to justify their responses. For example, one response was "They share their work with others". When asked why, the response was "Usually they think they can help. When you have found something successful you want to share it with others - tell the world how to improve the situation for the children!"

From the analysis the responses were refined to 41 statements (Appendix One). These were then given ratings under a five-point

Likert-type attitude scale with a range from strongly agree to strongly disagree and randomly placed under the three scales termed

Theoretical perspectives
Educational contexts
Working comparisons and Teaching Styles

Provision for recording was included on the sheet.

This initial instrument was then piloted with 10 further participants. From this, it became obvious that the original questionnaire was inadequate in a number of areas - in particular demographic information, and elements associated with personality-related characteristics. The demographic section was then extended, and the question section of the TEQ enlarged with further items about teaching designed specifically to detect individual preferences in:-

sociability
perceiving
cognitive processing
decision making
action and organisation
perceptual openness
interpretative preferences
management and discipline preferences

It was thought that these items could fill out the more stylistic aspects of teaching practice.

A further section, Part C (Appendix One) was included in the questionnaire to allow participants to record their own perceptions of what an effective teacher is. They responded by completing in up to five spaces the stem "An effective teacher..." This section was optional. Inclusion of this was designed to assess the respondent's attitudes, values, beliefs and opinions about effectiveness that was not restricted by a 5 scale response to specific situations. (Dixon, Bouma &

Atkinson, 1988) These responses were to be categorised and then reassessed in the light of the scales to be derived from the Teacher Effectiveness Questionnaire.

This section concluded with the opportunity for respondent's comment about the questionnaire design to provide some feedback on its efficacy.

Marking

All responses were rated on a 1-5 scale fully shown in Appendix One. In constructing the questionnaire, marking scale reversals were used to avoid patterned answering by respondents.

Myers Briggs Type Indicator

The Myers-Briggs Type Indicator Form G (1976) was used to determine differences in personality. This Indicator uses C.G. Jung's theories and asks respondents 126 forced choice questions to determine psychological type on the preferences already discussed in the Literature Review in Chapter Two.

Representativeness of the Sample

Usefulness of the sample in terms of norms, was established by the use of the following tables. The first is a comparison of the total of male / female primary teachers in the primary school service in 1987. (Source: Sheehan et al 1988).

TABLE 2

A comparison of women in the Primary Education System with women in the Teacher Effectiveness study.

Women in Primary Education System (Sheehan et al 1988)	- 74%
Women in Effectiveness & Psychological Type Study	- 74%

The percentages of Teacher Effectiveness participants and 1987 New Zealand wide figures are the same, therefore a gender balance in this study has been obtained which is identical with the distribution of the normal teaching population of New Zealand for that period. This balance has remained fairly constant for some years now.

Table 3 shows the distribution of female and male teachers relative to their seniority in the school. The table compares participants in the Teacher Effectiveness Study with Department of Education Statistics on Primary School Teaching. The two results are remarkably similar.

TABLE 3

Percentages of Male and Female Teachers in the Primary Service and Seniority Placements

	FEMALE		MALE	
	Sheehan et al, 1988	Tchr. Effect. Study	Sheehan et al, 1988	Tchr. Effect Study
Scale A	84	82	16	18
Senior Teacher	63	85	37	15
Assistant Principal	89	90	11	10
Deputy Principal	35	35	65	65
Principal	19	38	81	62

(Source: Sheehan et al, 1988).

The percentages for this study at the Scale A, Assistant Principal and Deputy Principal levels are almost identical with recent patterns reflected in the overall staffing of primary teaching.
In the case of Assistant Principal, the figures are likely not to have changed for two reasons - the Assistant Principal's position in many schools remains part of the Junior Department where men are less likely to teach, and secondly this has been a position almost traditionally occupied by women ever since the title was 'Infant Mistress'.

Specifications for Deputy Principal positions now allow for this position to be held in either the Junior or Senior area of the school, making it easier for both genders to apply. Therefore the static figures for Deputy Principal are likely to reflect both male and female competition for this role.

The increase in the percentage of women in the positions of Senior Teacher and Principal fits with the current tendency for this to occur. This increase is exemplified in Table 4.

TABLE 4

Women Appointees to positions of seniority in Primary Education

	ST, G1, G2	G3	G4, G5
1984	48	26	10
1987	58	29	15

(Source: Sheehan et al, 1988)

Selection of Participants

Within the Whangarei district, there are approximately 45 schools which belong to the Whangarei Primary Principals association.

Each of the principals from this area was asked to consider participation in the study. Although originally most agreed, for various reasons 21 schools ranging in sizes from 2 teachers to 19 teachers finally became involved. In each case the principal sought the voluntary approval of his staff after consideration of the information sheet shown in Appendix One. This finally resulted in the participation of 145 primary school teachers and principals covering levels from New Entrants (approximately 5 year old children) to Form 2 (approximately 12 year old children).

Once participation had been agreed on, each school was approached individually to outline more fully the details and purposes of the study.

Of greatest concern to the staff involved were two factors - the time involved to fill out the questionnaire, and the confidentiality of the information supplied. The first concern was addressed for most by the principal scheduling time for this to occur. Others completed the TEQ in their own time. The confidentiality concern was addressed by allowing respondents to use pseudonyms if preferred, although as expected, the results of the MBTI were popularly shared amongst all staff.

The participants were then asked to complete both the Teacher Effectiveness Questionnaire (TEQ) and the MBTI.

All MBTI results were then assessed by qualified professionals. Next, meetings were held to provide initial MBTI information and reported types to participants. After negotiation, participants finally chose their 'Claimed' Myers-Briggs Personality Type. Those who missed these meetings were responded to individually at later meetings.

This then formed the basis of data for statistical analysis. The first, 'Initial' Type, is the result of having completed MBTI Form G. The second, 'Claimed' Type, resulted from the negotiated and finally accepted type.

Information from the TEQ was analysed using a numerical scoring system of 1-5, while the two independent sections were analysed in categories as they occurred - see Appendix One.

The resultant data from the TEQ and the MBTI were analysed at Massey University using SPSS as the diagnostic software. Correlations of TEQ items were submitted to factor analysis resulting in thirty-one factors. As the results revealed many very small factors, this was then

reduced to nine, and finally a rotated four factor solution, as suggested by a Scree Test, was used as the most clearly defined and therefore desirable outcome.

The use of factor analysis was adopted specifically to obtain actual rather than a pre-defined structure of perceptions of effectiveness. Limiting the number of factors to four according to the Scree test provided a statistically defined set of independent scales. Use of factor scores provided more exact values of variance than pre-defined scales might have done.

These factors were then analysed for differences between means of the following groups:-

* Male / Female
* Age of respondents
* MBTI Initial Type
* MBTI Claimed Type
* Differences between various letter combinations of the MBTI were also tested

MBTI types used throughout this thesis are the bipolar preferences of:

Extraversion (E)	/	Introversion (I)
Sensing (S)	/	Intuition (N)
Thinking (T)	/	Feeling (F)
Judging (J)	/	Perception (P)

Statistical Analysis

The dependent variables in this study (the four factor based TEQ scales) were subjected to a Oneway Analysis of variance and a Scheffé Test. The analysis of variance was used to compare one dependent variable against two or more independent variables (Tuckman, 1978) taking into account all deviations from the mean, and examining the extent to which particular group means could have occurred by chance.

As is the practice, these factor scores have a mean of zero and a standard deviation of 1. Thus all measurements are expressed in decimal points.

The multiple range Scheffé Test was run to compare distribution means simultaneously (Howell, 1992), ensure more rigorous selection of levels of significance, and examine the probability of groups occurring in the same population. The Scheffé test set the significance level for the f ratio at $p \leq .05$.

Chapter 4

RESULTS

The findings are presented in three parts. The first deals with the demographic data and the relationship to MBTI type. This is followed by an examination of the results of the teacher effectiveness questionnaire and the association with psychological type. Where appropriate, means have been rounded to two decimal places.

The final part deals with the individual written comments made by teachers about their beliefs concerning effective teaching.

All data in the summary tables is available on request from the author although not included in the text of this thesis.

Part One - Demographic Information

In the questionnaire the respondents were asked to detail information incorporating the following aspects:-

- Gender
- Age
- Country of origin
- Ethnicity
- Qualifications
- Status in School
- Number of Schools taught at
- Total years of service
- Current Class Level Taught
- Longer Inservice Courses Attended
- Hours worked on School Business
- Professional Groups

Gender

This study involved a total of 38 male and 107 female primary school teachers. The distribution by seniority is shown in Table 3. The data

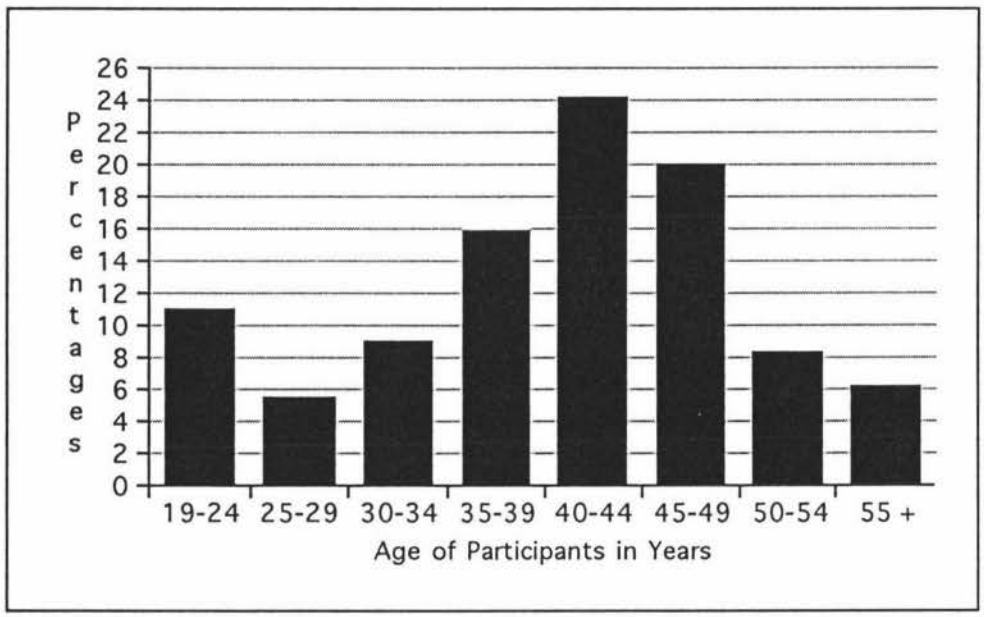
indicates that the distribution of the study participants is representative of the primary teaching service.

Age

Figure 1 indicates the percentages of the participants by age.

FIGURE I

Percentages of age of participants in the Teacher Effectiveness and Myers-Briggs Psychological Type Study



The reasons for the lower percentage of participants aged 25-29 years are not clear and were not investigated for this study. The figures suggest a loss of young people from teaching in the early years.

The remainder of the sample, apart from the 19-24 level, indicates a pattern which closely resembles a normal curve of distribution with a little more than 68% of participants in the 30-49 year range. The mode is 40-44. A significant drop off is noted in the percentages 50 years and above, suggesting early retirement or career change for this group.

Table 5, indicates that personality type is spread fairly evenly across the age range. The data shows that ISTJ, ISFJ, INTJ, INFP and INTP teachers (6% of this sample) are the types who include older serving members of the teaching service i.e. beyond the age of 54 years. No Extraverts in this sample of 145 are found in teaching beyond 54 years of age and a lessened number of Extraverts after 49 years is also noted. While many are being lost to teaching at this time, an alternative possibility may be the development of greater introversion at this stage.

TABLE 5

Claimed Myers-Briggs Personality Type Compared with Age Group

Claimed Personality Type	Group 1 19-24 yrs	Group 2 25-29 yrs	Group 3 30-34 yrs	Group 4 35-39 yrs	Group 5 40-44 yrs	Group 6 45-49 yrs	Group 7 50-54 yrs	Group 8 55+ yrs	Total
ISTJ			2	3	6		2	2	15
ISFJ	4	1	2	4	2	3		2	18
INFJ	1		2		1	1	1		6
INTJ	1		1		5	3	1	3	14
ISTP	1	1			1	1			4
ISFP	2			1	1		1		5
INFP		1	1	3	5	2		1	13
INTP					2	3	1	1	7
ESTP	2	1	1	1			1		6
ESFP	1	2		1	1	1	1		7
ENFP	1	1		2	3	6			13
ENTP		1				1			2
ESTJ			2	3		4			9
ESFJ	2		1	3	5	2	3		16
ENFJ			1	2	2		1		6
ENTJ			1		2	1			4
TOTALS	15	8	14	23	36	28	12	9	145

Country of Origin

Table 6, outlines the country of origin for the 145 participants in the sample.

TABLE 6

Country of Origin for the Participants in the Teacher Effectiveness Study

Numbers	Country of Origin
133	(91.72%) New Zealand born
3	(2.07%) Australian born
3	(2.07%) British born
6	(4.14%) Born in varying countries from around the world including Kenya, Sudan, Burma, South Africa and Switzerland.

A total of 12 (8.28%) participants had a country of origin other than New Zealand.

Ethnicity

The great majority in the study identified themselves as European (93.10%), with only 3.45% identifying themselves as Maori and 1 (0.69%), from the Pacific Islands. Table 7 outlines these figures. Responses are therefore unlikely to reflect differing cultural values as this is not intended to be part of the study.

TABLE 7

Ethnicity as identified by the Participants in the Teacher Effectiveness Study.

Numbers	Identified Ethnicity
135	European
5	Maori
1	Pacific Island
2	Asian
2	Other

Qualifications

The composition outlined in Table 8 , indicates that the bulk of teachers in this survey (65.52%) were to be found in the group that had attained Teachers Registration only. The remaining 34.48% of participants had already attained higher qualifications. Some of these teachers also indicated they were undertaking studies to complete Diploma or Bachelor qualifications.

TABLE 8

Educational Qualifications of Academic States of Teacher Effectiveness Participants

Group	Qualification	%
Group 1	Registered Teachers	65.52
Group 2	Advanced Diploma in Teaching (two thirds of a degree)	16.55
Group 3	Bachelors Degree or equivalent	13.10
Group 4	Higher Dip Teaching; Post Graduate Diploma	2.76
Group 5	Masters Degree or higher	2.07

Table 9, shows the outcome when Myers-Briggs personality types are compared with qualifications. Although there is no clearly delineated type which has achieved highest academic qualifications INTJ teachers in this sample manifest the most evenly spread range. Three participants out of the sample have achieved masterate level qualifications and these fall into ISTJ and INTJ types.

TABLE 9

Claimed Myers-Briggs Personality Type and Educational Qualifications of Teacher Effectiveness Participants

Claimed Personality Type	Group 1 Reg. Teach	Group 2 Adv. Dip. Teach	Group 3 Bach. Degree	Group 4 High. D. Teach	Group 5 Mast. plus	Total
ISTJ	10	2	2		1	**15**
ISFJ	16		2			**18**
INFJ	5	1				**6**
INTJ	6	2	2	2	2	**14**
ISTP	3			1		**4**
ISFP	4		1			**5**
INFP	9	3	1			**13**
INTP	4	1	2			**7**
ESTP	3		3			**6**
ESFP	6	1				**7**
ENFP	7	2	4			**13**
ENTP	1	1				**2**
ESTJ	4	3	1	1		**9**
ESFJ	13	3				**16**
ENFJ	2	3	1			**6**
ENTJ	2	2				**4**
TOTALS	**95**	**24**	**19**	**4**	**3**	**145**

Reg. Teach = Teaching certificate or Teacher Registration; Adv. Dip Teach = Advanced Diploma in Teaching; Bach. Degree = Bachelors Degree or equivalent; High. D. Teach = Higher Diploma in Teaching; Mast. plus = Masterate equivalent or better.

Status in the school

Of the 145 teachers in this sample, no type appears to take precedence for seniority within a school. Drawing conclusions is difficult from this data because the distribution numbers vary so widely (Table 10). Nevertheless there is a strong tendency for J's (Judging types) to appear in principalship - 61.11% have a TJ preference while 77.77% are T types.

TABLE 10

Claimed Myers-Briggs Personality Type and Status Within the Schools of Teacher Effectiveness Participants

Claimed Personality Type	Grp 1 B.T.1	Grp 2 B.T.2	Grp 3 Tchr. Sc. A	Grp 4 Sen. Teach	Grp 5 Ass. Princ	Grp 6 Dep. Princ	Grp 7 Princ.	Grp 8 Pt. Time, Spec	Total
ISTJ			6	2		2	3	2	**15**
ISFJ		1	10	1		2	1	3	**18**
INFJ		1	1	3			1		**6**
INTJ			4		1	2	3	4	**14**
ISTP	1	1	2						**4**
ISFP		1	3		1				**5**
INFP			4	1	1	4	1	2	**13**
INTP			3	1			1	2	**7**
ESTP	1	1	3				1		**6**
ESFP			4			1	1	1	**7**
ENFP		1	5	3	2	1		1	**13**
ENTP		1				1			**2**
ESTJ				1		2	4	2	**9**
ESFJ	1		7	2	3			3	**16**
ENFJ			3		1		1	1	**6**
ENTJ			2			1	1		**4**
TOTALS	**3**	**7**	**57**	**14**	**9**	**16**	**18**	**21**	**145**

BT = Beginning Teacher; Tchr Sc.A = Teacher Scale A; Sen. Teach = Senior Teacher; Ass. Princ = Assistant Principal; Dep. Princ = Deputy Principal; Princ. = Principal; Pt Time, Spec = Part Timers, Specialists.

Service

Table 11 shows the range of experiences of the participants as represented by the number of schools at which they have taught. Most participants therefore have moved 6 to 10 times indicating that teachers in this sample have been very mobile. This would mean that in a 40 year career, a teacher would expect to change schools every 4 to 6 years. At the extreme end of this group 3% claim to have moved schools 16 or more times - a 40 year career average of a change every 2.5 years.

TABLE 11

Numbers of schools in which the participants from the Teacher Effectiveness Survey have Taught

Number of Schools	Number of Participants	Percentage
1 to 2	28	19.31
3 to 5	35	24.14
6 to 10	66	45.52
11 to 15	11	7.58
16 +	5	3.45

Table 12 outlines the total years of service achieved by the participants. While the majority of the respondents have 6 to 10 years of service each (18.62%), the spread is consistent with the age group data (Table 5) showing a large drop in numbers of teachers in primary education after 30 years of service - approximately at the age of 50.

TABLE 12

Total Years of Service of Teacher Effectiveness Participants

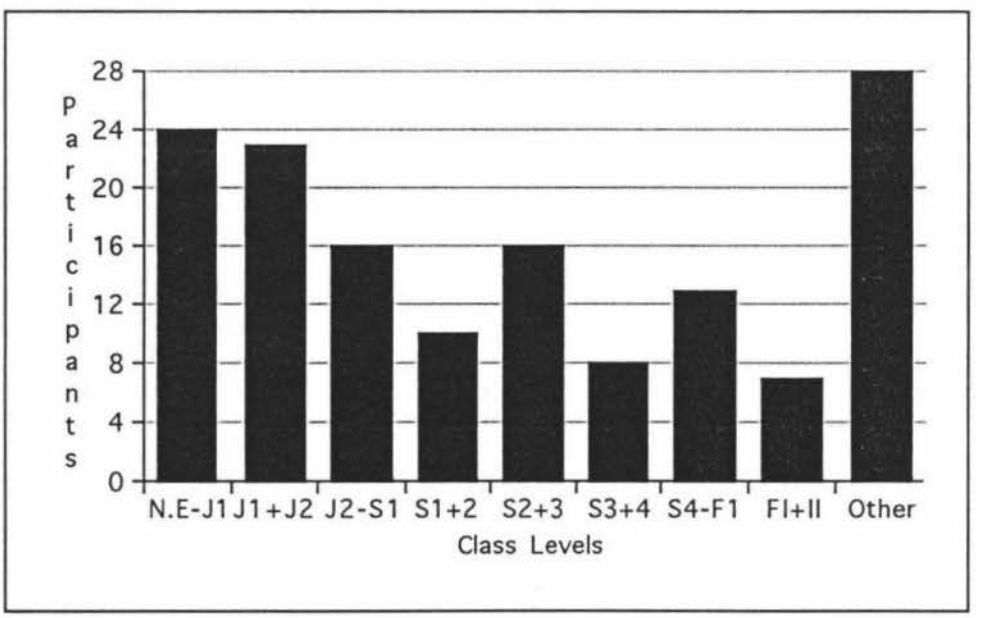
Total Years of Service	Number of Participants	Percentages
1-2	10	6.9
3-5	17	11.72
6-10	27	18.63
11-15	22	15.17
16-20	22	15.17
21-25	21	14.49
26-30	17	11.72
31-35	6	4.14
36 +	3	2.07

Current class level taught

The study covers the first eight years of schooling and Figure 2 details the relevant information. The data shows that 50.34% of the participants taught in classes with Year 1 to Year 4 children (New Entrants (N.E.) to Standard 2 (S2)) while 30.35% taught in classes from Year 5 to Year 8 (Standard 3 (S3) to Form II (FII)). The remaining group of 19% consisted of non-teaching principals, specialist or part time teachers without specific class responsibilities.

FIGURE 2

Class Level Taught by Participants in the Teacher Effectiveness Survey



Longer inservice courses attended

Morrish (1976) suggests that teacher effectiveness is improved by Inservice Training that is long term rather than the single event 'lucky dip' model. More than 40% of the respondents had not attended an

Inservice Course of a week's duration or a course presented regularly after school over a longer period.

Hours worked on school matters

Table 13 indicates that for full time teachers (Groups 2 to 5), the minimum working time on school business would be greater than 40 hours per week. This figure includes time spent on school preparation at home. Just over 80% would expect to spend between 40 and 60 hours per week on teaching related matters. Such activities include attendance at professional group meetings eg. Reading Association, Teachers of Science, Junior Class Meetings and Interschool Sports Organising Groups,etc. Although 56.56% do not belong to groups or associations (Appendix, 2), others are involved in as many as four groups, all of which have to be attended in out of school hours.

TABLE 13

Hours Worked on School Matters by Teacher Effectiveness Survey Participants

Group	**Hours Worked per Week**	**Number**	**Percentage**
1	< 40	19	13.1
2	40-50	67	46.21
3	51-60	50	34.48
4	61-70	8	5.52
5	70+	1	0.69

Group 1 involves part timers with less than a full time job. The hours indicated are their estimation of time spent on school business at school and beyond class contact time.

Part Two - Principal Component Analysis and Factor Analysis

The analysis of the second section of the Teacher Effectiveness questionnaire was carried out using principal component analysis to examine the 90 variables from Question 1.01 to 10.05. This resulted in a correlation matrix, an Eigenplot (Appendix 2), and an initial 31 factor solution.

Initial statistics indicated 31 variables with high communality and after using a cutting point of 80% for variables, a rotated 9 factor solution and a further Eigenplot (Appendix 2) were arrived at. The solution was still unsatisfactory as a number of the factors still contained insufficient variables. In both cases the Eigenplot indicated a four factor solution as a final possibility and this four factor analysis was then carried out (Appendix 2)

Using this final solution, all variables with a loading $\geq .40$ were included in a factor, and the following four factors were found, which after considering the conceptual base on which each one rested, were entitled:

I. Responsive Teaching
II. Professional Teamwork
III. Planning and Management
IV. Theory versus Practical Experience

The following four tables outline the specific statements that were included in each factor.

TABLE 14

FACTOR I

Responsive Teaching

Item code	Factor Loading	(Items loaded ≥ .40)
CR	.67	Understanding of others is a sign of an effective teacher
CS	.58	Effective Teachers see motivation as essential
CP	.58	Effective teachers focus on possibilities
CQ	.57	Effective teachers are extremely insightful
CT	.57	An effective teacher finds ideas from everywhere
DF	.56	Effective teaching is defined by increasing involvement in learning
CZ	.54	An effective teacher enjoys the contribution made by theory
BD	.52	Optimistic teachers gain the best results
DN	.51	Effective teachers give their pupils as much autonomy as possible
CU	.50	An effective teacher plans in a general way then adapts plans to student needs as often as necessary
DB	.49	An effective teacher inspires pupils to develop as citizens and persons

DC	.48	An effective teacher takes the time to combine ideas from many sources
DL	.47	Effective teachers adapt readily to change
CI	.47	I believe that teachers get the best from children when they are taught in a sympathetic and friendly manner
DO	.47	Effective teachers provide a wide variety of activities in the classroom situation
DD	.46	An effective teacher uses overall plans, organising these by themes or concepts, but determines the details by using student levels
BM	.45	Effective teachers control pupils best by praise
DA	.41	An effective teacher enjoys the challenges posed by development and change
CX	.40	Teachers are effective only if they improve student learning and participation and make a personal contribution of their own to the student's education
CY	.40	An effective teacher sees possibilities but then uses personal logic to analyse them
CD	–.40	Effective teachers should have a daily routine which is seldom subject to change

TABLE 15

FACTOR II

Professional Teamwork

(Items loaded ≥ .40)

Item code	Factor Loading	
AV	.54	Teachers should compare written planning with one another
BH	.53	A principal's involvement is critical in determining teacher effectiveness
CC	.51	Specific objectives should guide teaching
BJ	.50	A carefully structured programme is the key to successful teaching
AW	.50	Teachers should observe one another's teaching
CM	.49	An effective teacher has a daily routine which includes person-centred interactions
AK	.48	Teachers need to be aware of what other syndicates in the school are doing
BS	.47	Appraisal improves the performance of effective teachers
BI	.46	The senior teaching staff's involvement is critical in determining teacher effectiveness
CB	.46	Detailed teaching plans should be made before the year or term starts
AO	.44	To be effective, teachers need to contact all parents regularly

CK	.44	An effective teacher uses syllabus guidelines and textbooks, but should also seek other teachers' ideas
AM	.41	Liaison with pre-school and high school agencies is vital to effective teaching
AU	.41	B.O.T.'s are essential to effective school functioning
CL	.40	I like to make detailed teaching plans well in advance but only after I take into account children's abilities

TABLE 16

FACTOR III

Planning and Management

(Items loaded ≥ .40)

Item code	Factor Loading	
CF	.56	Effective teachers give marks for children's work
BK	.53	It is best to teach each curriculum area separately
CE	.49	Effective teachers should direct all activities in the classroom
DK	.48	To be effective, teachers need to keep carefully to schedules and programmes
DJ	.46	Ideas for teaching are best worked out on one's own before consulting others
BT	.45	Slower children tend to get more attention in effective classrooms
BE	.45	Teachers who believe they are teaching well do a better job than those without this attitude
CG	.42	I believe a teacher is only successful when pupils' marks and behaviour improve
DM	–.41	Effective teachers should take a firm stance and stick to it
BU	.41	Facts need to be taught formally as part of the curriculum

TABLE 17

FACTOR IV

Theory versus Practical Experience

Item code	Factor Loading	Items loaded ≥ .40 (≥.30)
AI	–.59	Experience in teaching is more important than theory
AJ	–.56	Good teachers do not need theory
AH	.53	A theoretical base underlies my teaching
BZ	–.46	Experienced teachers share knowledge and personal experiences with the children
BG	.45	Student failure is more related to background than teacher inefficiency
AF	.42	Professional reading should be a requirement of every teacher
BA	–.40	The single cell classroom is the most efficient teaching system
BW	–.40	I take a practical approach to teaching
BX	–.40	I prefer to teach subjects with direct relevance to real life
(AE	–.37	The best inservice courses are those of a practical nature)
(CJ	–.32	I am good at giving practical experience to people)

These four factors were then compared across a range of demographic data and type indicators as illustrated in Table 18

TABLE 18

Results of Comparison of Factors by Demographic Categories and Type Preferences

	Factor I	Factor II	Factor III	Factor IV
Gender	x	x	S	x
Age	S	x	x	x
Initial Type	x	x	x	S
Claimed Type	x	x	x	x
Initial Type ES,EN,IS,IN	x	x	x	S
Claimed Type ES,EN,IS,IN	x	x	x	S
Initial Type SJ,SP,NJ,NP	x	x	x	S
Claimed Type SJ,SP,NJ,NP	S	x	x	S
Initial Type E_I	x	x	x	x
Claimed Type E_I	x	x	x	x
Initial Type SN	S	x	x	S
Claimed Type SN	x	x	x	S
Initial Type TF	x	x	x	x
Claimed Type TF	x	x	x	x
Initial Type JP	x	x	x	x
Claimed Type JP	x	x	x	x
Initial Type EJ,EP,IJ,IP	x	x	x	x
Claimed Type EJ,EP,IJ,IP	x	x	x	x
Initial Type -ST-,-SF-,-NT-,-NF-	x	x	x	S
Claimed Type -ST-,-SF-,-NT-,-NF-	x	x	x	S

X denotes comparison carried out but no significance found

S denotes significance found at the 0.05 level for f probability

Gender and factors

A comparison of means of Factor I - Responsive Teaching; Factor II - Professional Teamwork or Factor IV - Theory versus Practical Experience by Males and Females, showed no significant difference at the .05 level of *f* probability (Table 19).

TABLE 19

Summary Table of Results of Analysis of Variance of Teacher Effectiveness Factors by Gender

(N=145)

Basis of Analyses		Factor I Responsiveness	Factor II Teamwork	Factor III Plan. & Manage.	Factor IV Theory
f ratio		0.0137	2.2957	8.2643	0.0701
f probability		0.907	0.1319	0.005	0.7916
	n =	mean	mean	mean	mean
Male	38	–0.02	0.21	0.39	–0.04
Female	107	0.01	–0.07	–0.14	0.01

However a highly significant difference was found at the 0.005 level of *f* probability when the means for Factor III - Planning and Management were compared by Gender. Here the mean for Males showed strong positive response (.39, n=38) to the controlling aspects of this factor while females were negative to the mean (–.14, n=107). (Table 19)

This gender difference on Factor III suggests that male teachers believe more strongly than females in Planning and Management as a key feature of effective teaching. Reference to Table 19 will show the substantial difference in means (males .39, females –.14).

Age and factors

In a comparison between the means for the Teacher Effectiveness factors by Age groups, significant difference was found with regard to Factor I - Responsive Teaching[1] ($p \leq .02$) (Table 20).

TABLE 20

Summary Table of Results of Analysis of Variance of Teacher Effectiveness Factors by Age

(N=145)

Basis of Analyses		Factor I Responsiveness	Factor II Teamwork	Factor III Plan. & Manage.	Factor IV Theory
f ratio		2.4358	0.5451	1.14794	1.7337
f probability		0.022	0.799	0.1795	0.106
	n =	mean	mean	mean	mean
19-24 yrs	16	–0.68	0.09	–0.24	–0.45
25-29 yrs	8	0.14	0.52	–0.48	–0.38
30-34 yrs	13	–0.54	0.11	0.14	–0.16
35-39 yrs	23	0.21	0.08	–0.30	–0.24
40-44 yrs	35	0.07	–0.07	–0.06	0.17
45-49 yrs	29	0.34	–0.15	0.22	0.16
50-54 yrs	12	0.03	–0.18	0.39	0.57
55 + yrs	9	–0.09	0.02	0.44	0.08

Factors I, II, III & IV - Scheffé test shows no 2 groups are significantly different at the 0.05 level

In particular, the means of teachers in the 19-24 year range (Grp 1, –.68, n=16), and the 30-34 year age group (Grp 3, –.54, n=13), were the most negative to the Responsiveness factor, while the means of the 45-49 year group (Grp 6, .34, n=29), and the means of the 35-39 year old group (Grp 4, .21, n=23) were the most positive to this factor.

[1] According to *f* probability, but Scheffé test shows no two groups are significantly different at the .05 level

A comparison between the means for Factors II - Professional Teamwork, Factor III - Planning and Management, and Factor IV - Theory, by Age groups showed no significant differences.

Initial type and factors

When the means of the factors Responsive Teaching, Professional Teamwork, and Planning and Management were compared by Initial MBTI Types, no significant difference was found.

However in a comparison of means for Theory by Initial Types a highly significant difference was found ($p \leq .01$)[2] . Table 21 shows that most clearly negative to the Theory Factor were the means of ESFP (–.64) and ESTJ (–.85). Stronger positive means were found for INTJ (.73), INTP (.49) and ENTP (.74).

In this analysis of variance the means of Sensate types are most negative to the Theory factor while the means of Extraverted types are most positively correlated to it.

[2] According to *f* probability, but Scheffé test shows no two groups are significantly different at the .05 level

TABLE 21

Summary Table of Results of Analysis of Variance of Teacher Effectiveness Factors by Initial and Claimed MBTI Type.

(N=145)

Basis of Analyses		Factor I Responsiveness	Factor II Teamwork	Factor III Plan. & Manage.	Factor IV Theory
f ratio		1.0967	0.5048	1.0094	2.1656
f probability		0.3658	0.9344	0.4497	0.0106
	n =	mean	mean	mean	mean
Initial ISTJ	18	–0.17	0.08	–0.02	–0.27
Initial ISFJ	14	–0.19	0.07	0.23	–0.09
Initial INFJ	4	0.36	–0.28	–0.71	–0.32
Initial INTJ	19	0.12	–0.10	0.18	0.73
Initial ISTP	7	–0.49	–0.20	0.28	–0.27
Initial ISFP	1	–2.13	0.49	–1.06	0.36
Initial INFP	12	0.07	–0.17	–0.35	0.01
Initial INTP	10	0.18	–0.28	0.65	0.49
Initial ESTP	5	–0.31	–0.15	–0.58	0.26
Initial ESFP	4	0.2	–0.15	–0.15	–0.64
Initial ENFP	13	0.44	0.02	–0.05	0.04
Initial ENTP	2	–0.19	0.31	–0.27	0.74
Initial ESTJ	13	0.25	0.62	–0.07	–0.85
Initial ESFJ	13	–0.30	–0.08	0.15	–0.21
Initial ENFJ	6	0.5	–0.11	–0.58	0.31
Initial ENTJ	4	–0.52	0.13	0.08	0.27
Factors I, II, III & IV - Scheffé test shows no 2 groups are significantly different at the 0.05 level					
f ratio		1.2054	0.406	0.6848	1.5543
f probability		0.2758	0.9753	0.7957	0.0989
	n =	mean	mean	mean	mean
Claimed ISTJ	15	–0.18	–0.13	0.09	–0.32
Claimed ISFJ	18	–0.08	–0.07	0.28	–0.04
Claimed INFJ	6	0.28	0.1	–0.61	–0.11
Claimed INTJ	14	0.0003	–0.07	0.1	0.66
Claimed ISTP	4	–0.48	0.45	0.46	–0.24
Claimed ISFP	5	–0.84	–0.03	–0.30	0.06
Claimed INFP	13	0.02	–0.25	–0.28	0.09
Claimed INTP	7	0.46	0.02	0.36	0.75
Claimed ESTP	6	–0.29	–0.17	–0.22	0.05
Claimed ESFP	7	–0.18	0.14	0.12	–0.28
Claimed ENFP	13	0.72	–0.12	–0.16	0.15
Claimed ENTP	2	0.11	0.09	0.15	0.66
Claimed ESTJ	9	0.32	0.63	0.03	–0.29
Claimed ESFJ	16	–0.21	0.1	0.09	–0.65
Claimed ENFJ	6	0.19	–0.02	–0.63	0.22
Claimed ENTJ	4	–0.58	–0.21	0.21	0.33
Factors I, II, III & IV - Scheffé test shows no 2 groups as significantly different at the 0.05 level					

Claimed type and factors

In a comparison between the means of Responsive Teaching, Professional Teamwork, Planning and Management, and Theory by Claimed type, no significant difference was observed at the .05 level of *f* ratio of probability (Table 21).

The effect of ES, EN, IS, IN in relation to the factors

Initial

A comparison of means of the four factors by the combinations of E-I with S-N (ES, EN, IS, IN) revealed no significant differences between the four groups on Factors I, II or III.

However, as Table 22 shows, a very highly significant difference (p=.0009) was found on Factor IV, the Theory Factor. The differences were moderate but consistent (ES, –.43; IS, –.19; EN, .20; IN, .39). The Scheffé tests shows the ES group as being significantly different from the IN group at the 0.05 level.

Claimed

A similar pattern exists among claimed types showing a highly significant difference ($p \leq .002$) for the means of the Theory Factor and ES, EN, IS, and IN Claimed Type, with consistent negative scores for the two S pairs and positive scores for the two N pairs.
The means were: Extraverted Sensates (–.39) and Introverted Sensates (–.15) compared with EN (.24) and IN (.37). The Scheffé test shows the ES group as being significantly different from the IN group at the .05 level.

TABLE 22

Summary Table of Results of Analysis of Variance of Teacher Effectiveness Factors by Function and Attitude Combinations ES, EN, IS & IN

(N=145)

Basis of Analyses		Factor I Responsiveness	Factor II Teamwork	Factor III Plan. & Manage.	Factor IV Theory
f ratio		1.9388	0.7782	0.4942	5.8093
f probability		0.1261	0.508	0.6868	0.0009
	n =	mean	mean	mean	mean
Initial ES	35	–0.04	0.16	–0.07	–0.43
Initial EN	25	0.25	0.03	–0.17	0.2
Initial IS	40	–0.28	0.04	0.1	–0.19
Initial IN	45	0.14	–0.17	0.07	0.39
Factors I, II, & III - Scheffé test shows no 2 groups are significantly different at the 0.05 level Factor IV - Scheffé test shows ES group as significantly different from IN group at the 0.05 level					
f ratio		2.1466	0.6497	0.7688	4.8934
f probability		0.0971	0.5844	0.5133	0.0029
	n =	mean	mean	mean	mean
Claimed ES	38	–0.09	0.19	0.03	–0.39
Claimed EN	25	0.34	–0.09	–0.19	0.24
Claimed IS	42	–0.24	–0.03	0.16	–0.15
Claimed IN	40	0.13	–0.09	–0.09	0.37
Factors I, II,& III - Scheffé test shows no 2 groups are significantly different at the 0.05 level Factor IV - Scheffé test shows ES group as significantly different from IN group at the 0.05 level					

* In each case of the means of Initial and Claimed preferences, the Sensate preference (S) affected the means negatively and the Intuitive preference (N) affected the means positively.

* When comparing the means of the factors related to Responsive Teaching, and Planning and Management, by ES, EN, IS, IN preferences, in either Initial or Claimed types, no significant difference was found.

The effect of SJ, SP, NJ, NP in relation to the factors

In the Initial data the results of comparisons between the means for Factor I, Responsive Teaching; Factor II, Teamwork; and Factor III, Planning and Management by SJ, SP, NJ, & NP, revealed no significant differences .

However a comparison of the means for Theory by the MBTI preferences of SJ, SP, NJ, NP displayed a very highly significant difference ($p = .0009$). (Table 23). The means for SJ, (–.34), and SP, (–.17), were negative on the Theory Factor, while the means for NJ,(.47), and NP, (.19), were positive. The Scheffé test shows the SJ group as being significantly different from the NJ group at the .05 level.

In the Claimed data a comparison of means for the Factors for Teamwork; and Planning and Management by SJ, SP, NJ, and NP, showed no significant differences.

TABLE 23

Summary Table of Results of Analysis of Variance of Teacher Effectiveness Factors by Initial and Claimed Function and Attitude Combinations SJ, SP, NJ, NP

(N=145)

Basis of Analyses		Factor I Responsiveness	Factor II Teamwork	Factor III Plan. & Manage.	Factor IV Theory
f ratio		1.8408	0.8555	0.2889	5.8426
f probability		0.1425	0.4659	0.8333	0.0009
	n =	mean	mean	mean	mean
Initial SJ	58	–0.11	0.16	0.07	–0.34
Initial SP	17	–0.37	–0.14	–0.15	–0.17
Initial NJ	33	0.14	–0.09	–0.07	0.47
Initial NP	37	0.21	–0.11	0.03	0.19
Factors I, II & III - Scheffé test shows no 2 groups are significantly different at the 0.05 level Factor IV - Scheffé test shows SJ group as significantly different from NJ group at the 0.05 level					
f ratio		3.1554	0.3499	0.76	4.6886
f probability		0.0268	0.7893	0.5184	0.0037
	n =	mean	mean	mean	mean
Claimed SJ	58	–0.08	0.07	0.14	–0.32
Claimed SP	22	–0.42	0.07	–0.01	–0.11
Claimed NJ	30	0.02	–0.04	–0.17	0.37
Claimed NP	35	0.37	–0.13	–0.08	0.28
Factor I - Scheffé test shows SP group as significantly different from NP group at the 0.05 level Factors II & III - Scheffé test shows no 2 groups are significantly different at the 0.05 level Factor IV - Scheffé test shows SJ group as significantly different from NJ group at the 0.05 level Factor IV - Scheffé test shows SJ group as significantly different from NP group at the 0.05 level					

In contrast,as reference to Table 23 shows, a comparison of the means for the Theory Factor by Claimed MBTI preferences of SJ, SP, NJ, NP found a highly significant difference ($p \leq .003$). The means for SJ (–.32), and SP types (–.11), are negative to the total mean, while NJ (.37), and NP types (.28) are positive. The Scheffé test shows the SJ group as being significantly different from the NJ group at the .05 level, and the SJ group as being significantly different from the NP group at the .05 level.

* In both Initial and Claimed types, the means for sensate preferences (S) were negative, while those for intuition (N), were positive.
* In both Initial and Claimed types the Judging preference (J) appeared to increase the mean, while Perceiving preferences (P) reduced it.
* In terms of area of the distribution indicated by the factor score there is more than 80% for Initial and 69% for Claimed, of a standard deviation between Sensing Judging types and Intuitive Judging types in their views of Theory as a key feature of effective teaching.

In Claimed data (Table 23) a significant difference ($p \leq .02$) was found between the means for the Responsive Teaching Factor by SJ, SP, NJ, and NP. Here Sensing Judging types (SJ), (–.08), and Sensing Perceiving types (SP), (–.42), were negative to the mean, while Intuitive Judging types (NJ), (.02), and Intuitive Perceiving types (NP) (.37) were positive.

* Sensates (S's) scored significantly lower on the Theory factor score, while means for Perceiving types (P's) were positive on the factor score.
* Use of the Judging preference (J) appeared to reduce these effects while Perceptive preferences on this factor appeared to increase them.
* There was more than .78 of a standard deviation between SP's and NP's.

The effect of extraversion / introversion (E / I) in relation to the four factors

No significant difference was found when comparing the means for any of the factors by either Initial or Claimed, Extraverted or Introverted responses. (Table 24) Despite this, for both Initial and Claimed types, the means for Introversion are negative to the means for Factors 1 and 2, Responsive Teaching and Professional Teamwork, and positive for Factors 3 and 4 Planning and Management and Theory.

TABLE 24

Summary Table of Results of Analysis of Variance of Teacher Effectiveness Factors by E and I Attitudes

(N=145)

Basis of Analyses		Factor I Responsiveness	Factor II Teamwork	Factor III Plan. & Manage.	Factor IV Theory
f ratio		0.6694	1.1506	1.3282	2.9439
f probability		0.4146	0.2852	0.2511	0.0884
	n =	mean	mean	mean	mean
Initial Introvert	85	–0.06	–0.07	0.08	0.12
Initial Extravert	60	.08.	0.11	–0.11	–0.17
f ratio		0.7121	0.6742	0.3377	2.1323
f probability		0.4002	0.4129	0.5621	0.1464
	n =	mean	mean	mean	mean
Claimed Introvert	82	–0.06	–0.56	0.04	0.11
Claimed Extravert	63	0.08	0.08	–0.06	–0.14

The effect of sensing and intuition (S / N) in relation to the four factors

Having considered the effect of Sensing and Intuition, (S and N) in conjunction with other preferences, these were then isolated to find any effect they may have on their own.

Initial S and N preferences and relationship to the factors

In Table 25 is found a comparison of means for the four factors by Initial MBTI S and N preferences. A significant difference ($p \leq .03$) was found on the responsiveness factor, sensates being negative to the mean (–.17, n = 75) while Intuitives were positive (.18, n = 70).

TABLE 25

Summary Table of Results of Analysis of Variance of Teacher Effectiveness Factors by Functions S and N

(N=145)

Basis of Analyses		Factor I Responsiveness	Factor II Teamwork	Factor III Plan. & Manage.	Factor IV Theory
f ratio		4.5399	1.4087	0.0507	15.5812
f probability		0.0348	0.2372	0.8222	0.0001
	n =	mean	mean	mean	mean
Initial Sensing	75	–0.17	0.1	0.02	–0.3
Initial Intuition	70	0.18	–0.1	–0.02	0.32
f ratio		5.306	0.9486	1.8189	13.2156
f probability		0.227	0.3317	0.1796	0.0004
	n =	mean	mean	mean	mean
Claimed Sensing	80	–0.17	0.07	0.1	–0.26
Claimed Intuition	65	0.21	–0.09	–0.12	0.32

When deviations from the factor mean are estimated the effect is approximately 34% of a standard deviation difference between the two means.

Initial S and N preferences and Factor IV - Theory

Table 25 shows the comparison of the means for Factor IV Theory by Sensing and Intuition, showing a very highly significant difference (p=.0001). Means for Sensate preferences remain negative (–.30, n = 75) while means for Intuitive preferences remain positive (.32, n = 70). A mean compared effect is approximately 62% of a standard deviation.

Claimed S and N preferences and Factor IV Theory

Table 25 presents results of the comparison between the means for Factor IV Theory by Sensing and Intuition. Again a highly significant difference was found (p= .0004)

As with previous findings, Sensate preferences are negative to the mean (–.26, n = 80) while Intuitive preferences are positive to the mean (.32), n = 65).

In area terms on the factor distribution, the difference is approximately 58% of a standard deviation.

* No significant differences were found in a comparison of the means of Factor II, (Teamwork), and Factor III, (Planning and Management) by either Initial or Claimed type Sensing and Intuition, suggesting that these are unrelated to individual perceptual preferences.

The effect of thinking and feeling (T and F) in relation to the four factors

A comparison of the means of all four factors - Responsiveness, Teamwork, Planning and Management, and Theory showed no significant differences when compared with Initial and Claimed Thinking and Feeling preferences. (Table 26)

TABLE 26

Summary Table of Results of Analysis of Variance of Teacher Effectiveness Factors by Functions T and F

(N=145)

Basis of Analyses		Factor I Responsiveness	Factor II Teamwork	Factor III Plan. & Manage.	Factor IV Theory
f ratio		0.2562	0.4043	1.6155	0.6662
f probability		0.6135	0.5259	0.2058	0.4157
	n =	mean	mean	mean	mean
Initial Thinking	78	–0.04	0.05	0.1	0.06
Initial Feeling	67	0.05	–0.06	–0.11	–0.07
f ratio		0.1517	0.2651	1.4959	2.3243
f probability		0.6975	0.6074	0.2233	0.1296
	n =	mean	mean	mean	mean
Claimed Thinking	61	–0.04	0.05	0.12	0.15
Claimed Feeling	84	0.03	–0.04	–0.09	–0.11

The effect of judging and perceiving (J and P) in relation to the four factors

No significant differences were found in a comparison between the means for any of the four factors by either Initial or Claimed Judging and Perceiving preferences. (Table 27)

TABLE 27

Summary Table of Results of Analysis of Variance of Teacher Effectiveness Factors by J and P Attitudes

(N=145)

Basis of Analyses		Factor I Responsiveness	Factor II Teamwork	Factor III Plan. & Manage.	Factor IV Theory
f ratio		0.0823	1.1829	0.0641	0.5403
f probability		0.7746	0.2786	0.8005	0.4635
	n =	mean	mean	mean	mean
Initial Judging	91	–0.02	0.07	0.02	–0.05
Initial Perceiving	54	0.03	–0.12	–0.03	0.08
f ratio		0.4481	0.2421	0.2546	1.5917
f probability		0.5043	0.6235	0.6146	0.2091
	n =	mean	mean	mean	mean
Claimed Judging	88	–0.05	0.03	0.03	–0.08
Claimed Perceiving	57	0.07	–0.05	–0.05	0.13

The effect of EJ, EP, IJ, IP in relation to the four factors

No significant differences were found when comparing the means for any of the four factors by Initial or Claimed Extraverted Judging, Extraverted Perceiving, Introverted Judging, and Introverted Perceiving (Table 28). The Scheffé test found no two groups were significantly different at the .05 level.

TABLE 28

Summary Table of Results of Analysis of Variance of Teacher Effectiveness Factors by Initial and Claimed Function and Attitude Combinations EJ, EP, IJ, IP

(N=145)

Basis of Analyses		Factor I Responsiveness	Factor II Teamwork	Factor III Plan. & Manage.	Factor IV Theory
f ratio		0.4061	0.8153	0.5399	1.5077
f probability		0.7489	0.4875	0.6557	0.2152
	n =	mean	mean	mean	mean
Initial EJ	36	0.007	0.19	–0.06	–0.30
Initial EP	24	0.19	–0.02	–0.02	0.03
Initial IJ	55	–0.04	–0.01	0.07	0.12
Initial IP	30	–0.10	–0.19	0.11	0.12
Factors I, II, III & IV - Scheffé test shows no 2 groups are significantly different at the 0.05 level					
f ratio		0.6544	0.5019	0.1906	1.5004
f probability		0.5815	0.6815	0.9026	0.2171
	n =	mean	mean	mean	mean
Claimed EJ	35	–0.05	0.18	–0.04	–0.30
Claimed EP	28	0.24	–0.05	–0.08	0.06
Claimed IJ	53	–0.05	–0.07	0.08	0.06
Claimed IP	29	–0.09	–0.05	–0.03	0.2
Factors I, II, III & IV - Scheffé test shows no 2 groups are significantly different at the 0.05 level					

The Effect of ST, SF, NT, and NF in relation to the Four Factors

These four combinations of preferences are referred to as MBTI function pairs, i.e. a combination of the polar preferences on Perceiving and Thinking. (Table 29)

Initial Claims

No differences were found in a comparison of the means for Factor I, Responsive Teaching, and Factor II, Professional Teamwork by the function pairs ST, SF, NT, and NF. The Scheffé test showed no two groups to be significantly different at the .05 level.

A tendency to a difference was revealed (.07 level of *f* probability) (Table 29), in a comparison of the means for Factor III, Planning and Management for the function pairs ST, SF, NT, and NF. Results show the means for Intuitive Feeling types as being the most strongly negative, (–.32, n=35) and the means for Intuitive Thinking types as most strongly positive, .28, n=35).

A very highly significant difference (p=.0001) was found, however, in a comparison between the means of Factor IV, Theory and the function pairs ST, SF, NT, and NF. In this case the means for Sensing Thinking (–.38, n=43) and Sensing Feeling (–.19, n=32) are negative, while the means for Intuitive Thinking, (.61, n=35), and Intuitive Feeling (.04, n=35), are positive.

TABLE 29

Summary Table of Results of Analysis of Variance of Teacher Effectiveness Factors by Initial and Claimed Function Pairs ST, SF, NT, NF

(N=145)

Basis of Analyses		Factor I Responsiveness	Factor II Teamwork	Factor III Plan. & Manage.	Factor IV Theory
f ratio		2.0429	0.6563	2.3297	7.8438
f probability		0.1106	0.5803	0.077	0.0001
	n =	mean	mean	mean	mean
Initial ST	43	–0.11	0.17	–0.05	–0.38
Initial SF	32	–0.25	–0.01	0.11	–0.19
Initial NT	35	0.05	–0.10	0.28	0.61
Initial NF	35	0.31	–0.10	–0.32	0.04
Factors I, II & III - Scheffé test shows no 2 groups are significantly different at the 0.05 level Factor IV - Scheffé test shows ST group as significantly different from NT group at the 0.05 level Factor IV - Scheffé test shows SF group as significantly different from NT group at the 0.05 level					
f ratio		2.3017	0.404	2.1765	6.1611
f probability		0.0798	0.7504	0.0935	0.0006
	n =	mean	mean	mean	mean
Claimed ST	34	–0.10	0.14	0.06	–0.24
Claimed SF	46	–0.22	0.03	0.13	–0.28
Claimed NT	27	0.04	–0.06	0.19	0.63
Claimed NF	38	0.33	–0.11	–0.35	0.1
Factors I, II & III - Scheffé test shows no 2 groups are significantly different at the 0.05 level Factor IV - Scheffé test shows ST group as significantly different from NT group at the 0.05 level Factor IV - Scheffé test shows SF group as significantly different from NT group at the 0.05 level					

There is almost one standard deviation between the means of Sensing Thinking (–.38) and Intuitive Thinking, (.61).

The Scheffé test shows the ST group and the SF group as significantly different from the NT group at the .05 level.

These differences in attitude have important implications for teaching.

Claimed

A comparison of the means of Factor I, Responsiveness, by the MBTI function pairs ST, SF, NT, and NF showed near-significance ($p \leq .07$) (Table 29). Consistent with previous findings, the means for Sensing Thinking (–.10, n=34) and Sensing Feeling (–.22, n=46) are negative while the means for Intuitive Thinking, (.04, n=27), and Intuitive Feeling (.33, n=38), are positive.

No differences were found between the means of Factor II, Teamwork, or Factor III, Planning and Management and the MBTI function pairs ST, SF, NT, and NF. The Scheffé test found no two groups as being significant at the .05 level for factors 1, 2 or 3.

However, a highly significant difference ($p = .0006$) was found in a comparison of means between Factor IV Theory, by the function pairs ST, SF, NT, and NF. (Table 29). Sensing Thinking means (–.24, n=34), and Sensing Feeling means (–.28, n=46) were again found to be negative while those of Intuitive Thinking, (.63, n=27), and Intuitive Feeling (.10, n=38), were positive.

The Scheffé test found the ST group and the SF group as being significantly different from the NT group at the .05 level.

There is again a strong difference of view on this factor with approximately 86% of a standard deviation between Sensing Feeling, and Intuitive Thinking on the Theory factor.

Part Three - Optional comments for Individual Participants on the Teacher Effectiveness Questionnaire

At the end of the questionnaire was a section Part C (Appendix 1) which gave the respondents an opportunity to comment individually about what they felt made an effective teacher or were the characteristics of an effective teacher. The section began:

"An effective teacher is / does..."

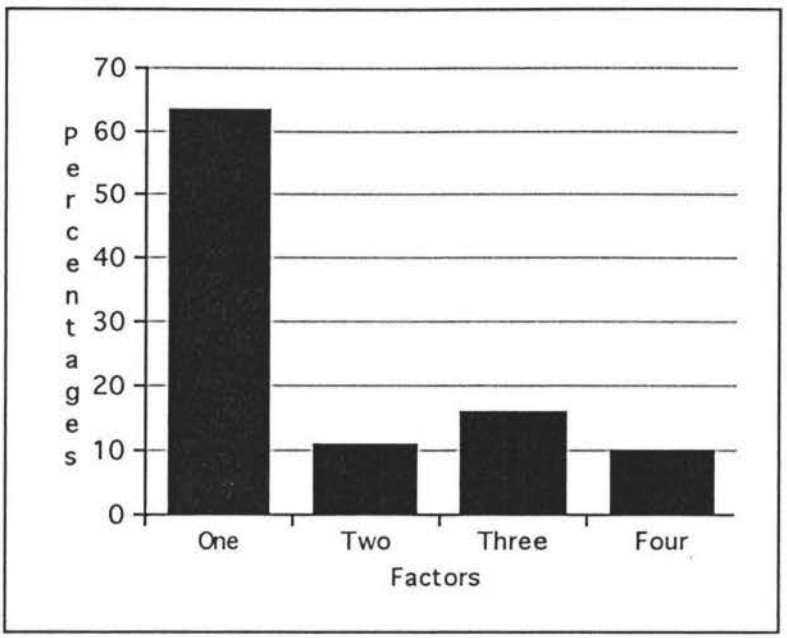
Five spaces were left for comments if the participant so wished. The comments outlined were initially sorted into categories (Appendix 1) and the responses were then re-categorised by two independent judges under the four factor headings -

Factor I	Responsive Teaching;
Factor II	Professional Teamwork;
Factor III	Planning and Management;
Factor IV	Theory (vs. Experience).

Where there was a difference in category placement, negotiation and discussion took place to determine the most appropriate analysis. Figure 3, represents the percentage of the total of 505 responses made by the 145 participants in relation to the four factors.

FIGURE 3

Percentage of Written Opinions of Participants Categorised into the Four Factors



63.37% of the comments were related to **Factor I - Responsiveness.** Statements included in this category were:-

An effective teacher...

> *..." is responsible, sympathetic, flexible, motivated, professional and has a sense of humour."*
>
> *..." relates to the children as individuals in their own right with their own dignity, rights and opinions."*
>
> *..." never neglects the fundamental skills that release creativity and empowers the learner."*
>
> *..." is constantly refining his/her philosophy on teaching i.e. He/she is both consciously and unconsciously learning and willing to change; is flexible and adapts his/her programme to each child's needs by posing questions rather than giving answers."*

..."The teacher supports the child in the process of finding answers to questions".

..."acts as mentor in a student driven resource based learning situation".

..." is a facilitator of children's learning".

..." is a person who can raise children's self esteem, alter behaviour patterns and at the end of the year feel that they have positively influenced most children's characters".

10.89% of the responses were related to **Factor II - Professional Teamwork** and are exemplified by the following comments:
An effective teacher...

..." can accept changes, learn from constructive criticism, communicate well with colleagues, share ideas and be supportive to staff and pupils".

..." is open to constructive criticism, seeks the advice of others and contributes to the effectiveness of the school by working collaboratively with other teachers".

..." uses people to bounce ideas off and teaches in an inclusive rather than an exclusive manner. They are not fearful of sharing ideas with others or of receiving them".

..." encourages an 'open door' policy to parents so children see home/school as a cooperative unit".

..." has a clear understanding of the school aims and objectives and is in harmony with these".

Factor III - Planning and Management had 15.64% of the responses and were illustrated by comments such as:
An effective teacher...

..." is not necessarily formal or very unstructured in their approach. It's the teachers attitude, intentions, motivation and commitment to the job that makes the difference".

..." is constantly monitoring, evaluating and then planning accordingly".

..." prepares educational programmes in line with school philosophy".

..." gives clear messages to his/her students regarding expectations. a) that the child can learn;
b)that the child will learn".

..."is fair but firm in the discipline of the children resulting in a classroom environment where the children feel safe and secure."

..."sets recognizable standards of work and behaviour which the students are clear about."

..."is able to be decisive and follow the planned path if that is the best way to achieve the desired result."

..." is one who has good control and efficient systems for the children to follow in the classroom."

..."is well organised both with resources and time management."

Factor IV- Theory versus Experience received the least comments at 10.10% of the sample. These are illustrated by the following comments: *An effective teacher...*

..." enjoys learning her/himself and is able to learn with her/his pupils''.

..." enjoys upskilling and trying out new methods and ideas through courses".

..." uses theory and practical experience as a guide to teaching".

..." likes to read and keep up with current theories".

..." has a personal philosophy of learning and teaching underpinned by a strong theoretical base and practical experience".

..." projects good role modelling. They are able to enrich the school life of the child with not only knowledge but with their own personal experiences".

..." recognises that the ultimate source of all learning is experience. Students learn most effectively by 'doing' rather than being told, by exploring and applying rather than merely listening. This always stresses the importance of the 'active' involvement of the learner".

..." is informed - by involvement in courses, extra mural education and theoretical reading".

..." explores the field of knowledge they operate in and takes t time to reflect on the implications".

..." draws on both theory and practice to formulate his/her teaching philosophy".

At the conclusion of this analysis a further random sampling occurred across the participants - every 14.5th entry (14th and 15th consecutively) was sampled to determine whether there was an association between claimed MBTI types and the written responses according to the Factors. Table 30 outlines the details of these findings.

TABLE 30

Random Sample of Claimed Type and The Four Factor Distribution

Sample	Entry No.	Claimed Type	Fac I	Fac II	Fac III	Fac IV
0	3	ESFJ	2		1	
14	16	ESTJ	3	1		1
15	33	ISTJ	-	-	-	-
14	50	ESFP	4		1	
15	65	ESFP	2			1
14	84	ENFP	3		2	
15	99	ISTP	-	-	-	-
14	115	ISFJ	3		1	1
15	130	ISTJ	-	-	-	-
14	144	ESFP	3			1
15	161	ESFJ	2	2		

The results indicated that there is no apparent dominant response by any particular type and that Factor I - Responsiveness was indeed a key feature of all respondents comments.

What this exercise did serve to highlight was the absence of written comments made by particular types - an ISTJ and an ISTP. This prompted further investigation into the function pairs of all of those who offered no written response, 23 respondents in all, and the results are detailed in Table 31.

The biggest percentage of those who did not supply any written comments fall in the ST types.

TABLE 31

Percentage of Participants Detailed by Function Pairs who did not Volunteer own Opinions on Teacher Effectiveness Questionnaire compared with the Total Sample

Function Pairs	Percentage of Non Contributors (n = 23)	Percentage of Total Sample (n = 145)
ST	43.83	23.45
SF	17.39	31.72
NF	17.39	26.21
NT	17.39	18.62
TOTALS	100.00	100.00

Table 31 shows that although ST's make up only 23.45% of the sample, more than 43% of those who did not contribute opinions of their own were ST's. No other function pairs were represented in this way.

A further breakdown of functions was carried out and is outlined in Table 32. It can be seen that of those who offered no written comments

S and T's dominate (61.22%) while those with N and F characteristics make more responses (34.78%).

TABLE 32

The Percentage of Single Function Preferences of Participants who offered no written comments compared with the Single Function Preferences of the Sample

Function	Non Contributors %	Total Sample %
S	61.22	55.17
N	34.78	44.83
T	61.22	42.07
F	34.78	57.93

The results of Parts One, Two and Three are drawn into the discussion which follows.

Chapter 5

DISCUSSION

Demographic Results Compared with Factors

The study postulated the existence of a relationship between teachers' perceptions of effectiveness and their personality type. The data analyses indicate support for this relationship and this chapter will explore the rationale for these findings.

The sample taken was found to be generally representative of the primary teaching population for gender and seniority. Some 91.72% of the respondents identified themselves as New Zealand born, while 8.28% had originated in a country outside New Zealand.

In addition, although reasonably diverse in having some 10 people identify as non-European, this does not coincide with the proportions of Maori or other ethnic groups as a proportion of the total population, and no attempt was made to represent ethnic percentages for primary teaching. Therefore, with this exception in mind there are findings of the study which have clear applicability for the primary teaching profession.

Age

The notion of ages and stages in adulthood came from post-Freudian psychologists (Biggs and Telfer, 1987) yet are applicable to this study. Levinson, et al. (1978) suggest that these stages occur in the early twenties, in the forties and in the sixties. This study confirms that the teachers in this sample reflect at least two of these stages - the twenties and forties.

The age range of participants in the study (n = 145) indicates that the number of young teachers in the service declines after the age of 24 and

does not begin to build again until the age of 30. Traditionally this is the period when leave of absence is taken for parental reasons, (especially as 74% of primary teachers are female and these tend to be the main child bearing years), travel, disillusionment, stress, etc. (Figure 2). Oja (1989, p124) confirms this when she suggests that teachers between the ages of 20 and 40 are finding their places in the profession, "a time which may involve considerable shifts in ones commitment to teaching". Certainly the first few years are an unsettled time for young teachers, who are trying to learn the necessary skills and attitudes, and decide whether teaching really is a career choice for them.

Age related effects were also correlated with Teacher Effectiveness Factors. Firstly the means of the 19 - 24 age group were those most negative on the factor for Responsive Teaching. Nicholls (1993) argues that each teacher is involved to some extent in a curriculum of control to establish authority in a classroom setting. New teachers, especially those in the first five years, emerge from Training College enthused and full of notions of the future. This attitude quickly alters with the realisation that such possibilities may only exist in a suitable learning climate, and for most this assumption quickly translates into an issue of control.

Unfortunately, inadequate ability to discipline classes is one of the major causes of Beginning Teacher failure (Cohen, 1981). Thus it is hardly surprising that Ramsey & McLellan (1989, p 15) would suggest it as a time when "without colleague support and early teacher intervention, the novice teacher can become a non-survivor, a poor performer who is lacking in confidence and unable to cope with the demands of the job." Anxiety levels become raised (Coleman, 1977), and responsiveness to children's educational, personal and social needs can become secondary.

A similar lack of responsiveness is found for teachers in the 30 - 34 age group. Biggs & Telfer (1987) describe this as a period when an

individual is attempting to balance the priorities between love and work and the concern in achieving an appropriate balance between these two facets would interfere with their ability to respond fully in teaching.

Also related to this trend is the low point occurring in teacher numbers in the 25-29 year group, followed by a subsequent increase after this point. This growth in numbers shown in the sample from 30 years onwards represents a return to work for women in the main child bearing years and for young teachers returning from leave for varying purposes. In both cases the reasons are the same as for those of 19-24 year old teachers; there are new curricula and organisational requirements to come to terms with, and management techniques to re-establish (Coleman 1977, Nicholls, 1993).

Once such concerns are dealt with, the teachers can respond in a more individualistic and educationally positive manner as reflected by the positive responses of the 35-39 year group. More significantly, those in the 45-49 year group are most positive toward responsiveness in teaching. This cohort represents those whose children are young adults, and therefore, have experienced the difficulties of raising children. They have also settled into particular career options that remove instability and restlessness from personal choices, and free the teachers to move outward to meet children's needs more readily. Biggs and Telfer (1987, p. 215) support this by noting that "Towards the end of the forties, some kind of equilibrium is reached which Jung... referred to as an individuation".

Oja (1989, p. 124) notes that "from about ages 40 - 55 teachers... described a second phase characterised by a strong commitment to teaching." Prior difficulties of instability, knowledge and growth are settled, a mature attitude prevails, and numbers of teachers increase in this sample to reach a peak at about 45 years of age.

This study suggests that the insight gained from all these experiences allows the teachers in this age group to be the most responsive of all - control and management are no longer issues, and practice has brought insight and the ability to respond sympathetically to children is increased.

This has vitally important implications for Boards of Trustees considering employment of a young teacher with enthusiasm, fresh ideas and potentially cheaper costs. This option, while attractive, may not be the most appropriate choice in terms of responsiveness to children.

At the 50+ year range, significant change again occurs. This is graphically illustrated in the research sample where numbers of older teachers drop away dramatically to a level only slightly greater than the low point of the early years and corresponds closely to the end of the 30 years of teaching service as shown in Table 12.

At this point, early retirement is available for some of those who are finding the task of teaching too difficult. Oja (1989, p 124) suggests that after the age of 55, researchers report "a ...loss of energy and enthusiasm as teachers become aware of a pulling away from teaching and from their students." This same reaction is found in the results of this study showing a swing at this point to a negative mean on the Responsiveness factor (Table 20). Sadly, for those whose Government Superannuation is insufficient or non-existent, the age for retirement and eligibility for National Superannuation appears to be drawing further into the future with the end of compulsory retirement in sight[1] . What this may well serve to do is to ensure that those who are less responsive to children are forced to remain in employment that has lost its appeal, perhaps resulting in a lessened commitment being given, unless new stimulation and energy can be found. This issue is one which principals will need to consider carefully.

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[1] School Trustees Association News, February, 1994

While it appears that neither Extraverts nor Introverts are more inclined to leave the teaching service at younger ages (Table 5), no Extraverted teachers were found in the sample beyond the age of 54 years. Since this study also indicates that New Zealand teachers may be predominantly Introverted (I = 82, E = 63, Table 9), staffs with a majority of older teachers are thus even more likely to reflect this trend. This has implications for seniority, leadership and communication systems if positive interaction between introverts and extraverts is to be effectively promoted. In such a situation, the characteristic need of Introverts to consider issues privately before speaking may not be understood or appreciated by the minority of extraverts who are energised by interaction with others.

Working together effectively may be made more difficult in this situation for Introverted teachers who may find it a challenge to control the focus of a discussion when some Extraverted groups begin interacting (Murphy, 1992). Conversely, extraverted teachers may find it draining to lead a discussion with an introverted group where the reluctance to share may be interpreted as shyness rather than a need for reflection.

In addition, McCaulley (1988), suggests that introverts will place more emphasis on conceptualizing the problem clearly and deliberating carefully before making decisions, while extraverts will place more emphasis on the external situation and taking quick rapid action in reaching decisions. Certainly, schools with greater percentages of Introverts will have to make significant efforts to ensure objectives are well understood and shared by the community.

While a balance of Extraverted and Introverted teachers could be maintained through an appointments system, it becomes important for Introverted teachers to modify their approach to accommodate both the outward and inward looking children to achieve the best education for both.

Qualifications

Despite the many opportunities for additional study that have been available for a considerable period, this study shows that 65% have Registration and Graduation from Teacher's College as their only stated qualification. Table 12 reveals that more than 80% of teachers have been out of Teacher's College longer than 5 years.

Such a distance from training will translate into a need for stimulating teacher development opportunities to ensure continuing improvement. However there is some debate as to whether teacher development, and consequent teacher effectiveness should necessarily be translated as increased qualifications at university level. This dichotomy is exemplified by the existence of a built in salary incentive for basic scale teachers to improve qualifications in New Zealand, while in America the Holmes Group (1986), have suggested the abolition of undergraduate education majors and the establishment of a three tier system of teacher licensing - instructor, professional leader and career professional.

In their terms, the career professional is one who has achieved outstandingly and continued study beyond masters level. Such a view risks seeing progression as a linear academic approach along a path toward an ultimate single goal. The problem with this proposition lies with the tendency to narrow individual choices rather than appreciating differences. Conversely, understanding and application of Psychological Type concepts provide the potential for a more diverse and less limiting approach.

Status and type

In the light of this concern and as this is a time of significant change in the New Zealand education system, this study sought to establish whether any particular personality type in teaching was most inclined toward study as measured by comparing personality type with academic achievements. The results were inconclusive as numbers of participants were unevenly spread across types. However, the INTJ

group (n=14) (Table 9) contained respondents in all categories from Registered Teachers to Masterate levels of attainment.

There also appears to be a link between seniority and personality type in Principalship (Table 10). Of the 18 principals, 14 (77.78%) are Judging types while 11 (61.11%) are Thinking / Judging types.
This finding is consistent with that of McCaulley (1988) and Briggs-Myers (1985, p136), who found that "at all levels educational administrators have large numbers of the tough minded TJ types". This trend continues throughout the senior ranks of primary teachers (Groups 4-7, Table 10) where there are nearly double the number of Judging types(64.91%, n = 37) as Perceiving types (35.09%, n = 20) in positions of authority.

One other type requires mention. In this sample (Table 10) all ESTJ type teachers were in a position of authority apart from those in Group 8, i.e. part-time or specialist positions (specialist positions too can carry additional responsibilities). Briggs-Myers (1980) suggests that these people portray the salient characteristics of administrators - attention focussed on the outside world, respect for facts and capacity for detail, judgments based on cause and effect and immediate decision making and Hoffman (1986), found that teachers collectively preferred having an ESTJ principal who would make the tough decisions and in general run the school. However they did wish the principal would "show more concern for their own individual feelings and needs".(p. 64)

This too is consistent with the ESTJ type. Their external focus, concern for the rational through logic, rather than concern for feelings, culminating in completion of task, suggest that this type would fit the principal / administrator role well. In times of change, such as New Zealand is experiencing, these people would provide well grounded direction without moving forward into new policy too quickly. Although logical in decision taking, these types may need to consider the human side of the equation as well, using suspended judgment

and developing openness to new ideas to involve others and promote valid change.

Nor is such a preponderance of one type necessarily negative, as many of the requirements of administration are fulfilled by these personality preferences. However, the findings of this study do suggest effectiveness is also related to attitude to experience and the ability to reflect on the future possibilities rather than simply reacting to past performance. Because other types may have a greater preference for this mode of operation than ESTJ's, the need for a balance of types in positions such as these is important.

Years of service/ class level/ hours worked

While 65.51% of the respondents have achieved Teacher Registration only, other measures of effectiveness are found in their attitude to work.

There is little doubt that the changes wrought by the Tomorrow's School's regime, originally intended only as a reorganisation of educational administration, have devolved to the classroom in many ways. Appraisal, record keeping, planning, evaluation, professional meetings, etc all add to the hours necessary to do an effective classroom teaching job. Table 13 shows that, more than ever, effectiveness is being interpreted by many as time spent on work related activities. While only part-time teachers (Group 1), could afford to spend less than 40 hours a week on school work, school time for all others was more related to the day to day activities of the school rather than on professional development as defined by finding more influential, longer term courses. Longer inservice courses are defined in this thesis as those which require repetitive attendance for a limited period over a number of weeks or months, or alternatively courses of a week or more.

Availability of these is becoming more limited. Reading Recovery (Clay, 1993) is one exception, for although access to this resource varies from region to region, the total Reading Recovery allocation from the Ministry of Education has not yet been reduced - only school based input varies according to financial availability.

A majority of teachers in this sample are found in class levels from New Entrants to Standard Two (62%) (Figure 2). In order to train in Reading Recovery teachers are expected to have engaged in successful junior class teaching, thus participation in Reading Recovery, one of the few Ministry of Education supported inservice courses, is reflected more in this sample than would otherwise be expected.

Increasingly, access to inservice courses is limited by budget constraints and by the personality of the administrators with control over such resources.

Due to this, numbers of teachers are finding methods of providing self development, through attendance at inservice training courses during out of school hours, and by being members of professional groups such as sports organisations, curriculum groups (e.g. Science Teachers Association), or status related groups such as Beginning Teachers, or Principal's Associations. Certainly membership of these organisations is cost and developmentally effective for administrators, as no relieving teacher salaries are due when such activities occur out of school hours. Additionally class disruption is minimised. However the inherent fallacy of this approach lies in the implicit assumption that, firstly a teacher's day can (and perhaps should), be extended into evenings and weekends, and secondly that courses and meetings are by default more important than classroom planning and management.

Additionally, teachers in this sample still reflect the employment patterns of a mobile profession with a change in jobs occurring on average every four to six years. This makes consistency in attitude toward school planning and teacher development even more

important, yet increasingly difficult to achieve. Within schools a positive attitude to teamwork will provide directions for a staff to follow in meeting such challenges.

Those issues related to Responsiveness, Teamwork, Planning and Management and Theoretical Frameworks / Experience Bases are precisely those which emerged as factors in this study.

Gender

If 1993 was Women's Suffrage Year, its effects were not shown in attitude to Factor 3, Planning and Management. Concepts which are evident in the statements such as 'firm stance', 'directing all activities', keeping to schedules and programmes' all connoting control were positively correlated to males and negatively to females in the study.

This attitude has implications for school climate. Hoy and Miskel (1982), suggest that pupil control climates fit within a bipolar continuum. At one end custodial schools support highly controlled settings with a primary focus on maintenance of order. In this situation, a rigid pupil-teacher status hierarchy maintains a flow of unquestionable teacher authority.

At the other end humanistic schools, in which co-operation, interaction and experience provide a context for increased student self determination, foster the creation of an atmosphere that meets student needs.

Males in this survey were half a standard deviation different from females in regard to Factor 3, Planning and Management (males, .39; females, –.13) with its embedded concepts of authority and control. This inclination toward power suggests that a male dominated staff would be far more managerially inclined than a female staff, yet as males are in a minority of three to one in the primary service, such attitudes would normally be expected to be less influential.

This though has not necessarily occurred as schools have historically remained highly structured, a situation which can partly be attributed to males traditionally having managed to trade a position of numerical inferiority for one of positional (status related) superiority.

Now that this is changing, albeit slowly, the move toward more humanistic schools should be showing more clearly, in particular where female staff hold senior positions of authority such as that of principal. Indeed the loss of Corporal Punishment, a highly controlling male domain, in many ways symbolises this shift in ethical position.

MBTI Type, Function Pairs and Single Preferences and their Relationship to the Four Factors

Factors and type

A comparison between the means of the four factors by type suggests there is no single type which is more inclined toward Responsive Teaching, Professional Teamwork or Planning and Management.

Such a result is positive for teaching suggesting that each complete type is equally able to be responsive to children. As Lawrence (1982), notes,

> All sixteen types are represented among teachers who have answered the MBTI. Each type has its characteristic strength and limitations. Each makes special contributions to teaching... If a faculty has a mixture of types, and knows about the characteristic strengths of different types, then students can be better served.

Despite the above, this study would suggest that although types may not vary significantly as a whole on the first three factors in this study, differentiation does exist in regard to attitude to theory, and as will be seen later in this chapter in certain function pairs and single preferences.

Factor IV in this study contrasts support for theory or experience as the best base for teaching. Table 21 shows the responses for Initial and Claimed Type. Of those that were negative to theory (positive to experience), six out of seven (85%) were Sensing Types and five out of seven (71%) were Judging Types. Of those positive to theory as their teaching base (negative to experience), seven out of nine (77%) were Intuitive Types, while six out of nine (66%) were Perceiving Types. Such a result would suggest that Sensing Judging types are more likely to prefer experience as the base for their teaching, while Intuitive Perceiving types are more likely to suggest that theory is more important as a base.

Factor IV, Theory and ES, EN, IS, IN

These function pairs, referred to in MBTI terms as the quadrants (Myers-Briggs & McCaulley, 1985), are to be found when the table of type is viewed as four quadrants, and are constructed by combining attitude (Extraversion or Introversion), with perception, (Sensing or Intuition.)

This study found that the reaction of each of these four groups varied according to their views on theory (Table 22). Most strongly negative to theory (positive to experience) were the Extraverted Sensing group (–.42, n=35, Initial Type) (–.38, n=38, Claimed Type). Briggs-Myers (1980) suggests these are the most practical of the types who learn best when applications are obvious. She states, "The greatest strength of the extraverted sensing type is their realism" (p101). This type then is active and practically oriented.

Also negative to theory as a philosophical base were the Introverted Sensing Types. Although not as strong in their response as the Extraverted Sensates (–.18, n=40,Initial Type)(–.14, n=42, Claimed Type), this cohort also sees effective teaching grounded in experience. The lessened response suggests that the intuitive function promotes a tendency toward careful ideas testing - these then are thoughtful realists.

In contrast, the Extraverted Intuitive types are positive to a theoretical orientation and tend to see wide ranging possibilities as challenges for change, while Introverted Intuitive types (also positive to theory), enjoy knowledge and theory for its own sake, and are less practically oriented.

Both groups support theory as the best base from which to provide effective teaching. Introverted Intuitives (.39, n=35) were most strongly in support, while Extraverted Intuitives (.19, n=25) while less convinced, still took the same position.

This difference of opinion about the value of theory over experience is one which has been long discussed by teachers, probably because of the philosophical difficulty of establishing a link between theory and practice (Morrish 1976). However, any perspective which takes only one side of this debate has limitations (Lanier & Little, 1986). In their view, there is a need to "keep management in the background, and student learning in the foreground" (p. 552). This is because experience if considered in isolation, tends to place management and the need for control at the centre of teaching activity; and where this occurs, teachers risk limiting children's learning by being unaware of student needs.

In such a situation, the value of theory is not simply ignored, it is often denigrated, and the most salient feature of professional education then becomes its practical component (Dinham & Stritter, 1986). Thus the study of pedagogy is often seen as having limited importance for teachers, while classroom experience is regarded as essential to initial teacher preparation.

Factor I, Responsiveness and SJ, SP, NJ, NP

According to Briggs-Myers and McCaulley (1985, p36), these groupings of types "combine differences in perceptions (S and N), and the use of perception or judgment in outer behaviour". Therefore it would be expected that the analyses should enable conclusions to be drawn about their orientation to the factors.

In Table 23 the means of Factor I by SJ, SP, NJ, and NP, is shown to be consistent with previous findings. In this case significance at the $p \leq .02$ level was found. Both the SJ and SP preferences were negative on the Responsiveness factor, with both Intuitive functions (NJ and NP) positive. The Scheffé test confirms this by finding significant difference at the .05 level between the SP group and the NP group for Claimed type.

These analyses suggest that the combination of SP is the least responsive, possibly because this type is naturally curious about the world, adapting to new situations as they arise and being involved with the facts of immediate experience (Briggs-Myers and McCaulley, 1985). This would suggest it would be difficult for SP types to be responsive as the constantly changing environment would provide new and challenging stimuli, making it hard to stay focussed on one situation.

The judging preference also seems to reduce this responsiveness. As a decisive function, it is likely that the concern for closure would restrict the time allocated to consultation and consideration and thus responsiveness.

NP types in contrast, are able to utilise their intuitive function to find solutions- probably in unique and independent ways, and as shown by the means, are most inclined toward responsiveness in teaching.

Factor IV, Theory and SJ, SP, NJ, NP

When the means of Factor IV, Theory, were compared across these same function pairs, a high level of significance for both Initial and Claimed type was found ($p=.0009$ Initial; $p \leq .003$ Claimed) suggesting these groups hold strong views on the place of Theory and Experience in teaching. The Scheffé test confirmed the SJ group as being significantly different at the .05 level from NJ (Initial and Claimed), and from the NP group (Claimed). Support for theory is again found for the intuitive function pairs while the Sensing function pairs remain negative.

Briggs-Myers (1980) suggest that Judging and perceiving functions work in different ways. She states, "Judgment is eternally coming to conclusions with all the finality the word implies. ... Perceptive types do not come to conclusions until they must - and sometimes not even then".

If these two functions are combined with S and N functions, outcomes in regard to theory can be expected to differ significantly, and this is what is reflected in the analyses. Once again the Sensing preferences (SJ and SP) are negative to the mean, and the Intuitive preferences (NJ and NP) are positive. In addition, the J function appears to be increasing the size of the mean. Thus SJ types are most negative to theory, probably because the factual base of these people, and their need for closure may interfere with the suspended judgment required for consideration of theoretical perspectives.

Conversely the NJ group appears most positive for theory (.28). It appears that the Intuitive function here is not inhibited by the Judging function. Instead, it appears to be supporting it by ensuring new ideas are channelled into more complete units. Thorne and Gough (1991, p. 76) suggest that:

> Intuitives as well as Perceivers are likely to be described as changeable, rebellious, and nonconforming, whereas Sensing and Judging types are likely to be described as conservative and conventional. The combination of S and J thus augurs for stability, and the preservation of norms, whereas the combination of N and P points clearly toward unconventionality and inconstancy.

In these function pairs then, such attitudes combine to support or act against theoretical orientation.

Factor III, Planning and Management and ST, SF, NT, NF

According to Briggs-Myers & McCaulley (1985), the type characteristics of these combinations are assumed to stem from the preferred use of these mental functions which focus on the combinations of perception (Sensing and Thinking), with those of judgment (Thinking and Feeling).

Some limited significance ($p \leq .07$) was found when the means of Factor III, Planning and Management were compared across the initial function pairs (Table 29). Therefore comments related to this section must be considered tentative. Here the means of Sensing-Thinking types were opposed to those of Sensing-Feeling Types, and the means of Intuitive-Thinking types were opposed to those of Intuitive-Feeling types.

This was most dramatically shown between the means of Intuitive-Thinking (.27, n=35) and Intuitive-Feeling (–.31, n=35), where the difference was more than half a standard deviation.

Since Sensing-Thinking types use Sensing for perception and Thinking for making judgments, they tend to rely on logical conclusions based on factual data. In contrast the Sensing-Feeling people, while also relying on factual data, prefer to make decisions through the more subjective process of feeling.

Intuitive Thinkers differ from Sensate Thinkers in that they prefer to use intuition for perception, but are similar in the logical application of data for making decisions. Intuitive-Feeling people however, while using Intuition for perception, make judgments based on values - how much things matter to themselves and others.

Thus, the Thinking or Feeling function acts in a rather different way than for other function preferences. In this study, the Intuitive Feeling types find Planning and Management to be a less desirable option than do Intuitive Thinking types. For the Feeling types, it appears to be more important to react to the personalities of the students - rather than approach the classroom with the more impersonal logic of scheduled tasks.

Lawrence (1982), describes Thinking types as being more likely to deal with the class as a whole, while Feeling types are more likely to move

from student to student, attending to individual work and seeking some dialogue.

The first approach (Thinking), is more managed and controlled, while the second (Feeling), is more informal and flexible, and it can be expected, as shown by the difference in means, that each approach to classroom management and control will differ. A Feeling type approach is likely to be characterised by informality and personal warmth, while Thinking types are more likely to plan and structure the classroom learning environment in a logical fashion.

Factor I, Responsiveness and ST, SF, NT, NF

A quite different effect was found when the means of the claimed function pairs ST, SF, NT, and NF were compared S across the Responsiveness Factor. As the differences are only a trend ($p \leq .07$) results here should be viewed with caution.

When the means of the Responsiveness Factor are compared across ST and SF a negative result occurs. This would suggest that for the teachers in this study, the sensing preference is inhibiting their ability to be responsive. This may be because responsiveness is only partly related to concrete situations and more related to the ability to react and change to new and unique experiences.

Intuitive Thinking and Intuitive Feeling Types were positive to the mean while Sensing Thinking and Sensing Feeling Types were both negative. In each case the effect of the T in the combination seems to lessen the effect on the means and the F increases it.

With T and F controlled (as their effect is identical in both pairs), the S appears to cause a negative response to the factor, and the N appears to cause a positive response. This finding suggests that Sensate people are less inclined toward responsiveness in teaching and thus more inclined toward a reality based, practical, 'tried and true' approach.

In contrast, responsiveness depends upon an interaction with people, coping with constantly changing situations and adjusting teaching style and directions as the problem alters.

In contrast, the Intuitives, appear to be supportive of the Responsiveness factor. An intuitive by MBTI definition is one for whom intuition permits perception beyond what is visible to the senses including future events (Myers Briggs & McCaulley, 1985). Thus where Responsiveness is called for in teaching, an intuitive will find this process a natural one, perceiving by way of the unconscious how problems can be solved or how reactions to children can be differentiated and new with each changing situation.

The response on this factor is shown least strongly by the Intuitive Thinkers. Here the logic of the Thinking function may be inhibiting a spontaneous reaction and promoting a rather more measured and careful approach.

Intuitive Feeling responsiveness appears stronger and may be based more closely on how decisions affect people, the values that should be considered. In regard to Factor I, Intuitive Feeling types show an increased awareness of responsiveness - an interest in seeking and following up on responsibilities which tends "to make them enthusiastic".

Nevertheless, this possible influence of the sensing preference does hold clear significance for the ability of teachers to react in educationally supportive ways with children.

Factor IV, Theory and ST, SF, NT, NF

A comparison of the means of the Theory Factor by ST, SF, NT and NF shows a sharply defined purpose which is highly significant ($p = .0001$, Initial; $p = .0006$, Claimed).

Factor IV is bipolar and conceptually contrasts the use of Theory or Experience as a teaching base. Considering this, two features arise from the comparison of means. In the first instance ST and SF are negative on the means while NT and NF are positive, and in the second instance, there is a large difference in reaction to be found between NT's and ST's.

The reaction to Theory is similar to that of the Responsiveness Factor. NT's are strongly supportive of Theory (.61, Initial;.63, Claimed), contrasting with both ST (–.38, Initial; –.24, Claimed) and SF (–.19, Initial; –.28, Claimed). In addition NF reaction is also positive but not as strong (.04, Initial; .10, Claimed).

Such responses suggest a wide difference in opinion between Intuitives and Sensates in regard to this Factor. Support for this view is found in Myers Briggs and McCaulley (1985). They suggest in both the Intuitive pairs NT and NF the focus is on possibilities, future events or relationships that can be conceived of globally. For NF's this may translate into an interest in communication or human relationships while for NT's this may become an interest in problem solving in more impersonal research areas such as mathematics or theoretical relationships.

In contrast, Sensing types are interested in facts they can gather directly through the senses, i.e. using sensing for purposes of perception.

SF's however, tend to rely on their feeling preference to approach decision making in a warm and perhaps subjective manner, while ST types tend to have a practical approach to, using logic for decision making based on the facts they have gathered.

Responsiveness and S / N preferences

Having considered Sensing and Intuition in conjunction with other functions, these were now isolated to find whether their apparent influence actually did exist.

When isolated, the means of S/N preferences showed clear significance across the factor for Responsiveness ($p \leq .03$, Initial; $p \leq .02$, Claimed). Both sets of means were consistent in that the means for Sensing were negative to responsiveness, while the means for Intuition were positive.

In the light of these results and with the elimination of other preferences it is possible to conclude that the Sensing preference tends to act against Responsiveness while Intuition acts positively.

In teaching this may well be of concern. If S types find their preference for reality and experience is interfering with their ability to be responsive, then their options are somewhat limited. One option might be to develop the auxiliary function so it can be used as a substitute.

Theory and S / N preferences

The difference then is most clearly exemplified when the means of Sensing and Intuition are compared across Factor IV, Theory. Here a highly significant difference is to be found ($p = .0001$, Initial; $p = .0006$, Claimed). Without other preferences to affect the result, the opposition of Sensing and Intuition is most obvious. Such a difference in approach to an issue central to school functioning (Theory versus Experience), may well provide ground for debate and polarised discussion. In a time of change such dramatically different responses are likely to result in S types resisting newness while N types may well be promoting it. In actual teaching terms, this may translate into the difference between trying to improve the school through new theoretical perspectives while maintaining the old institutions.

The four factors and EI, TF, and JP

The four factors appear to be relatively unaffected by each of these three single preferences. Individually, I and E represent whether attention is focussed on the outer or inner world, T and F on ways of

making judgments, and J and P on the lifestyle adopted in dealing with the outer world (Briggs Myers, 1989).

As such each appears to need the addition of another preference to reach significance in relation to the factors in this study.

Optional Comments and type

Part C of the TEQ provided the option of personal input into the questionnaire. Here teachers were invited to suggest for themselves, up to 5 items beginning "an effective teacher...". Once analysed, these were then categorised under the factor headings.

No individual type appeared to provide responses particularly related to any one of the four factors (Table 31). It was noted that by far the largest proportion of comments related to Factor One, Responsiveness. As this is focussed on consistently and discussed frequently in the school setting and is the central concept of most Inservice instruction, it is a logical assumption to expect that this would indeed be the most readily commented upon factor.

The number of respondents who declined to fill this section in at all created some interest. When these were analysed for type, it was found that ST types were less likely to contribute. Of those who did not fill in this section approximately 43% were ST types - nearly twice as many as those found in the total number of participants in the TEQ. In contrast all other function pairs contributed more to this section. Such a lack of response can now be explained by the previous data. Sensing types have consistently shown to be negative to theory and positive to experience.

This particular section is open ended in that it requires the respondent to reflect, theorise and hypothesise and as such, would not comfortably fit with the sensing preference which has been shown to exist. A checklist of particular attributes may have appealed to these

respondents more, where the characteristics of effective teachers were already delineated and choice within parameters was already defined. Lawrence (1982, p. 7) states that sensing types see, "working with tangibles as more important than using theory and insight".

Chapter 6

CONCLUSIONS AND EDUCATIONAL IMPLICATIONS

Summary

This study set out to explore relationships between perceptions of effective teaching and Psychological Type.

The literature base for this study showed a consistent focus on the personality of the teacher, ranging from Hoyle's (1980) characteristics of professionalism to Schon's (1987) reflective practitioner.

Effectiveness was defined in many ways, through attitudes such as optimism and pessimism, beliefs in the value of theory and practice, or organisational considerations such as management and programme structuring. Some of these attitudes were found to be congruent with Type Theory.

No conclusions were able to be drawn as to whether any type was more inclined toward academic attainment, but clear patterns emerged showing that senior positions tended to be held by Thinking / Judging types and ESTJ (Extraverted, Sensing, Thinking, Judging type) types in particular.

These findings are consistent with those from America where similar Types are to be found in Educational Administration and business - all leadership positions in which a tough minded approach seems to be well suited (Briggs-Myers and McCaulley, 1985).

The study also reflected the preponderance of women to be found in the primary service, a pattern which has not changed in a number of years, and a trend that seems likely to continue (Sheehan, et al, 1988).

A reduction in teacher numbers from 25-29 years was found and a further significant reduction in numbers occurred at the age of 50. This trend continued to the end of the surveyed period at age 55+.

Teachers in the sample matched well with other published statistics for New Zealand Primary Schools. However the teachers also conformed to some international patterns in age and development.

The sample showed a variation from American norms, in that introverts were greater in number than extraverts.

It was found that Type Theory avoided the problem of seeing 'one best personality' for teaching, finding merit in differing approaches by delineating specific characteristics for each function. Knowledge and use of Myers-Briggs type thus presents possibilities for improved teacher instruction, as it recognises the strengths and weaknesses of individual preferences and provides opportunity for team building through use of complementary abilities.

The conclusions will now be discussed in order of the hypotheses at the end of Chapter Two.

<u>Hypotheses</u>

The first hypothesis stated:-

That as teachers age and experience increases, more positive responses to children will develop.

This hypothesis was not found to be true. Firstly the teachers in the 19-24 year group and the 30-34 year group were shown to be the least responsive while the 55 year plus group also showed as slightly unresponsive. All other groups showed as positive to the Responsiveness Factor for teacher effectiveness. Even where the results remained positive for two consecutive age groups or more, the changes still showed a high-low pattern occurring every five years.

The exception to this was shown from the age of 50 onwards where lowered responsiveness was followed by a negative result.

Oja (1989) has characterised ages and stages in teacher's lives and these match remarkably well with each of the swings in attitude towards responsiveness shown in this study. However, despite this close parallel to her statistics, this does not mean that all teachers are inevitably pre-destined to fit the categories or time frames. As Oja (*op. cit.*, p. 148) notes "Although there is a close consistency between years of age and life period, there is still not a one-to-one correspondence. Rather the key issues one is currently working on determine the life period."

Teachers can thus feel able to control their own development through knowledge of self, the interests they develop and the challenges they face.

Hypothesis 2 states:
That the Myers Briggs Extraversion function will be positively related to working as a team member.

The original hypothesis was based on the assumption that Extraversion would incline teachers toward Teamwork, while Introversion would not. As the means did not reach significance for E and I as single polar preferences, this hypothesis cannot be upheld. However, in conjunction with S and N (ES, EN, IS IN) significance was reached.

This suggests that on its own Extraversion or Introversion is not sufficient to bias teachers toward one view or another. Thus, as an orientation to the world, Extraversion does not necessarily interfere with, or promote the building of teams. Rather the motivation will be provided by the context (Duignan, 1986).

No Extraverted teachers over the age of 55 years were found in the sample. One possibility was that Extraverts were at this time developing more of their Introverted preference. This is consistent with MBTI theory which suggests good type development continues for the whole of life (Briggs-Myers and McCaulley, 1985).

If this sample is representative of teachers in general, communication systems for older teachers will have to be considered. Few schools would consider they do a very good job of advertising their strengths and effectiveness to the community and the reason may be partly found in this dominance of introverts particularly among older, and often senior people who would be central in determining some of the expectations of the school.

In order to explore the more outward looking functions schools will need to look for those who find this a more natural and spontaneous way of operating and use these teacher's skills to develop this particular area.

Hypothesis 3 states that:-
That the Myers Briggs Type preferences of Intuition and Perception are likely to be found in Responsive teachers.

The findings confirmed this hypothesis. Intuition and Perception as a combination (NP) showed the strongest positive mean on the Responsiveness Factor. This was contrasted by both SJ and SP which were negative.

Briggs Myers and McCaulley (1985, p. 36) describe Intuitive and Perceptive people as "constantly seeking the challenge of the new". This is precisely what responsive teaching is about - the construction of new solutions to constantly differing stimuli from within the teaching situation. According to Briggs Myers and McCaulley (op. cit., p. 135) N

and P are associated with "liking to use independence and creativity in teaching."

Such teachers will be well suited to classroom environments supporting counselling activities and finding non-threatening solutions to management concerns. However, their classrooms are also likely to be noisier than one in which a Thinking / Judging person is teaching, while Lawrence (1982) suggests that NP's have difficulty scheduling their work. Therefore teachers with this type preference will need assistance with meeting deadlines and planning (Murphy, 1993).

This study found that those with Intuitive and Perceptive functions were more inclined towards being responsive / reflective teachers than other types. Significantly this pattern is opposed by those with a sensing orientation, who are found to be negative to this factor and the factor for theory versus experience. This will be discussed separately as the difference between the Sensing and Intuitive function holds considerable significance for educationalists.

Hypothesis 4 states:-
That those aspects of teaching behaviour which are regarded as common elements of professional effectiveness will be less influenced by personality type. Specifically views touching on classroom management and professional co-operation will not be significantly related.

This hypothesis was found to be correct. The two factors Teamwork, and Planning and Management both differ from Responsiveness and Theory versus Experience in that they are more likely to be those aspects learnt through socialisation and professional training while the other two are more likely to reflect personality effects.

No MBTI preferences reached significance on the two factor means of Teamwork and Planning and Management. This conclusion is viewed

positively as it provides the opportunity for teachers college, schools and professional activities to guide the development of these aspects in less individualistic and more socially oriented ways, especially as the notion of Teamwork is central to the philosophy of most schools. However, in order to take this aspect further in the school setting some active professional development work in this area may be necessary. This finding is also of sufficient importance to be discussed in detail later.

Further general expectations not formally testable within this study

Hypothesis 5 states:-
That knowledge gained and insights developed through understanding type theory will combine with varying concepts of teacher effectiveness to operate within given contexts.

This hypothesis can only be assumed correct though no data is available to substantiate the claim. An exciting aspect of this study has been the process of enabling respondents to claim their type after explanation of type functions. One of the most significant reactions was relief - that it was all right to be the way they were - to own their type. This self acceptance and understanding of their own unique difference was at times quite moving. Interest in others' type followed, and discussion of difference ensued. Once again, the sudden understanding of why others acted as they did was quite remarkable. The consideration of team building was an often discussed outcome of the feedback sessions.

Such processes occurred on many occasions providing subjective evaluation while allowing some justification for agreement with the hypothesis.

Educational Implications

Much has been made of the need to improve numbers of women in senior positions in Education, and this study would suggest that this increase is occurring.

However when gender attitudes were investigated it was found that males were more inclined to be managerial than females. Steffens (1978) found responsiveness to be gender related. The present study also showed it to be age related. In a time of growing awareness of such attitudes, especially in the primary teaching field which is dominated numerically by females, this result is somewhat surprising.

It seems such attitudes may be partly genotypical in origin and partly modified by occupation or socialisation factors such as those of male and female roles. Cole (1979, p. 118) outlines social scientists' arguments that "women's biological makeup...tend to make them less aggressive and competitive than men." He further suggests that the training they receive from an early age directs them into particular patterns of responding in relation to gender roles stating, "men had favourable attitudes toward the aggressive behaviour of their sons. They were not worried that their sons may be bullies. However, when girls acted aggressively, they expressed concern. The girls were supposed to be nice, sweet, pretty, affectionate, and well liked (p. 123)".

The greater apparent managerial tendency of males remains. Despite being a minority in primary school teaching, they are still more inclined than females toward a controlling attitude. Such a tendency is of some concern. Steffens (1978) suggests that "children tend to see males as more powerful, more dominant and more inclined to punish" and found that unless male students were trained in responsiveness at teachers college, they would be deficient in both responding to pupils and in being able to direct pupil learning effectively. This study supports his view.

Limits of authority are increasingly being re-defined by changes such as the removal of Corporal Punishment and the Children's and Young Persons Act, both of which give mandatory status to the rights of children. The need for males to respond in valid ways cannot be ignored. Courses which provide such assistance would seem to be important for schools with male teachers. Assistance can also be found in the positive concepts such as those suggested in Biggs and Telfer's (1987) bases of influence.

Management techniques are often first learned within supervised class practice situations. However it would appear that training institutions must begin to make the link between theory and practice more obvious (Lanier & Little, 1986), so that issues of management and control become less pervasive, and the focus in class can return to children's needs. The need is to reduce the problems for new teachers. Dependency on systems developed from past experience must be viewed critically. Longer serving teachers must be valued both as team members and as individuals with a contribution to make. Type theory can assist by the teacher being aware of the pupils type and then modifying teaching style to fit the student needs.

Schools must become more aware of changes that occur in teacher responsiveness. One possibility for improving this situation lies in setting and achieving goals such as the development of auxiliary type functions, in order to develop further competence and satisfaction with the job.

Assistance suggested for the final negatively responsive group, the 55+ year old teachers, includes the continuation of support within a team-based framework, particularly as attention is likely to move beyond the classroom to developing personal interests outside education.

The effects of Sensing and Intuition

When the set of MBTI types, function pairs, functions by attitudes and single polar preferences had been analysed for significance of means on

the TEQ, it was found that for both the Theory factor and the Responsiveness factor, Sensing (S) was always negative to the mean while Intuition (N) was always positive. This remained true even when S and N were combined with other preferences, although the strength of the response to the mean varied according to the function pair that was created. For example in the analysis of variance of the Responsiveness factor by Claimed Function Pairs ST SF NT & NF, all Feeling (F) responses increased the significance of the mean in conjunction with both Sensing and Intuition preferences, while all Thinking (F) responses lessened it.

This shows that Sensing and Intuition are strongly opposed to one another in the use of theory or experience as a base on which to rest their teaching. This finding cannot be ignored, as it holds powerful implications for those who teach at the primary school level.

With Sensing and Intuitive types taking such a completely different approach to teaching, any issue central to school functioning may well provide ground for debate and polarised discussion. According to McCaulley (1988), some of the most serious misunderstandings and lack of respect in organisations come from the differences between the realistic, practical, hands-on S's and the innovative, more theoretical Intuitives. Thus many organisational problems can be solved when people holding these differing preferences learn to respect and use their differences constructively.

Thorne and Gough (1991) in discussing Sensing types suggest

> ...in their achievement oriented behaviour, sensing persons should be at their best in defined and regularised settings where their good qualities can be put to work on behalf of sanctioned and clearly specified objectives... practical and realistic ways of dealing with problems. (p. 73)

N types are described as

> Dissatisfied with the merely possible, frustrated by the restrictions of convention, and eager to probe into the potentialities of experience. All intuitives ...value intellectual and cognitive matters and are comfortable with uncertainty and complexity. (p. 73)

In a time of educational change, such as New Zealand is currently experiencing, dramatically different responses, as those outlined above, are likely to result in S types resisting newness while N types may well be promoting it. In actual teaching terms, this may translate into the difference between trying to improve the school through new theoretical perspectives while maintaining the old institutions, or considering change and innovation.

Some consideration must be given on the basis of this finding, to those schools who are finding it most difficult to accommodate the present alterations to our usually stable system, and consider whether some of the difficulties being experienced are related to strong adherence to natural type characteristics. An obvious example would be suggested by an NP principal dealing with an SJ Board of Trustees where the principal's ideas and flexibility did not meet the Board of Trustees wish for detail and completion.

In school situations the N group may well promote the use of theory without knowledge of practical consequences, while S types may well resist the use of theory, and try to maintain the school without change at all. Neither is a satisfactory position.

The effects of professional socialisation

No relationship was found between personality type and the two more clearly professional factors of Teamwork and Planning Management. It seems fair to say that in general, teacher education is making it

possible for all types to gain professional attitudes in relation to Teamwork, Planning and Management. This absence of significant apparent influence is of importance because prior learning as well as type preferences can be combined in a unified approach - a combination of genotypical and phenotypical effects.

This is not to suggest that a knowledge of type would not be valuable - quite the contrary in fact. McCaulley (1988) reports that the MBTI is used extensively to teach teamwork, suggesting that participants and leaders report that a knowledge of type leads to a better understanding and appreciation of people's differences and more productive teamwork. Lawrence (1982, p.86) states,

> Whenever people differ, a knowledge of type helps to cut out irrelevant friction. More than that, it points up the advantages of the differences. No one man has to be good at everything. He only has to be good at his own stuff and decently appreciative of the other fellow's. Together, thanks to their differences, they can do a better job than if they were just alike.

Earlier in this thesis discussion focussed on the selection of teachers college students. In this context Lanier and Little (1986) suggested that upward class mobility was one factor in student entry to teachers college. Later Hoyle (1980) and others investigated the notion of professionalism while Price and Reid (1988) explored decision taking processes within the school.

These elements hold strong socialisation implications as they are based on the underlying philosophy of group enculturation. This need to belong either to a new social class, to a professional group or to a particular staff requires conformity to a set of implicit and explicit norms. Belonging to a group exerts a great deal of influence on member's behaviour and is an important agent of socialisation.

Cole (1979, p. 105) discusses the influence of such involvement and points out that

> ...individuals were taught or socialised to follow the norms of the work group to which they belonged... The group norms had a greater influence on work output than did individual self-interest.

Conformity in such situations is likely to be an effective behavioural modifier. Thus Teamwork, and Planning and Management are indeed likely to be resistant to personality effects and more likely to display school and professionally related contexts.

The second consideration from this finding relates to the negative result. Teamwork and Planning and Management appear resistant to personality effects, but an understanding of type actually assists the building of Teamwork (Briggs-Myers and McCaulley, 1988). The question must therefore be asked why such a lack should not be addressed through a study of type? This would then positively promote understanding and appreciation of difference rather than resenting and fearing it.

<u>Relationship to the Research Question</u>

> Do perceptions of teacher effectiveness vary as a function of individual personality?

The answer varied according to those perceptions that were open to socialisation pressures.

In this study, the factors became divided into two pairs.The first pair, Responsiveness and attitude to Theory versus Experience in teaching, were open to individual interpretation and as such were also open to personality effects. A strong difference of opinion was found especially in differences between Sensing and Intuitive teachers on the Theory factor and such widely differing views will, thus, challenge relationships and innovation in schools.

The second pair, Teamwork, and Planning and Management, did not vary according to personality. In fact, these appeared to be factors which were able to be developed and manipulated through professional socialisation processes. Such a result was seen as positive for schools which would then be able to provide professional development activities within this sphere. However, it is suggested that type theory could contribute positively to both of these processes.

This thesis has tested the hypotheses against a set of scales: no claim is made that these are all of the dimensions which a full Teacher Effectiveness Questionnaire Project would establish. The hypothesised relevance of Type in this study has been found to be correct.

Limitations of the Present Study and Future Possibilities

This study noted differing attitudes of males and females to management issues, and drew on work by Steffens (1978) which found a difference between male and female responsiveness. Between them they suggest that little has changed in this area for some years.

Further research could be directed into investigating the period in which such beliefs became most influential as far as teaching is concerned, which programmes could best be implemented to assist the development of responsiveness, and at what stage this should occur. The responsibility of teachers colleges as providers of pre-service training in such areas is also of interest.

This study focussed on teachers' own perceptions of the teaching task, but the interest displayed by those claiming their own type suggests that research may be well directed into the effectiveness of staff who operate from a base of self awareness of personality, rather than from traditional systems.

This study made no attempt to match teachers' perceptions with actual performance, and there is thus the question of whether what is expressed is simply belief or whether it is actually a reflection of classroom activity. The ability of teachers to assess their own standards has obvious implications for inservice development, classroom programmes and so on. Such a study could focus on the ability of different types to make this match with accuracy.

Furthermore, a fully reliable and generally valid New Zealand Teacher Effectiveness Questionnaire may now be an important research need as no instrument of this type currently exists. However such a development was well beyond the scope of this study

The tension between Sensing and Intuition is so clear that this could provide real insight into situations of conflict in schools. In particular this is likely to surface in response to change or to theoretical perspectives.

Understanding of people's type, classroom applications and school wide considerations are some of the most exciting opportunities open in education today. In an educational scene which is increasingly pressurising teachers, the ability to individualise learning and make the 'best fit' between teaching and learning styles with greatest understanding and least difficulty is of singular importance.

This study has shown that a majority of teachers are concerned with responsiveness, and knowledge of type theory provides the possibility that such concerns can be addressed, to the benefit of both pupils and teachers alike. Type theory thus represents one of the most important tools available in education today. It is to be hoped that this potential is realised for the sake of all involved.

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APPENDICES

Appendix 1

Initial Questionnaire on Aspects of Professionalism.

Name:.....

Age(circle one): 20- 30; 31-40; 41-50; 50+

Qualifications:.....
.....

Teaching Experience: 1-5 yrs; 6-10 yrs; 11-20 yrs; 21+ yrs

Current Position
held:.....
.....
.....

Please indicate your agreement or disagreement with the following statements by circling the response that most nearly coincides with yours.
SA = Strongly Agree; A = Agree; U = Uncertain;
D = Disagree; SD = Strongly Disagree

do not write in this area

Theoretical perspectives:

1.	Professional reading improves my teaching.	SA	A	U	D	SD
2.	The best inservice courses are those of a practical nature	SA	A	U	D	SD
3.	Teachers should refer to theoretical knowledge before planning	SA	A	U	D	SD
4.	Professional reading should be a requirement of every teacher	SA	A	U	D	SD
5.	Teachers should refer to theory when they are unsure	SA	A	U	D	SD
6.	A theoretical base underlies my teaching	SA	A	U	D	SD
7.	Experience in teaching is more important than theory	SA	A	U	D	SD

8.	Good teachers do not need theory	SA	A	U	D	SD

Educational Contexts:

9.	Teachers need to be aware of what other syndicates in the school are doing	SA	A	U	D	SD
10.	Teachers cannot function effectively without being aware of the standards required, in the school for older and younger children	SA	A	U	D	SD
11.	The most important thing is to do one's best for the children in one's own class.	SA	A	U	D	SD
12.	Liaison with pre school and high school agencies is vital to effective teaching	SA	A	U	D	SD
13.	Interschool visits for other than sports are not educationally valid	SA	A	U	D	SD
14.	Teachers should contact all parents by phone regularly.	SA	A	U	D	SD
15.	Teachers should have face-to-face contact with parents	SA	A	U	D	SD
16.	Parents should be allowed to have input into what is taught	SA	A	U	D	SD
17.	How something is taught is best left to teachers	SA	A	U	D	SD
18.	Schools function best as individual units	SA	A	U	D	SD
19.	Teachers should be involved in educationally related organisations	SA	A	U	D	SD

20.	Teachers should be continually refining their skills	SA	A	U	D	SD
21.	Children should be taught by one teacher per year	SA	A	U	D	SD
22.	BOT's are essential for effective school functioning	SA	A	U	D	SD

Working Comparisons and Teaching Styles:

23.	Teachers should compare written planning with one another	SA	A	U	D	SD
24.	Teachers should observe one another's teaching	SA	A	U	D	SD
25.	Assessments of another's teaching should be avoided	SA	A	U	D	SD
26.	Teachers should use others to assist them to improve their teaching	SA	A	U	D	SD
27.	Team teaching (two teachers in a room) is an excellent method	SA	A	U	D	SD
28.	The single cell classroom is the most effective system	SA	A	U	D	SD
29.	Open plan classrooms allow for greatest teacher interaction	SA	A	U	D	SD
30.	Effective teacher development does not need to include observation	SA	A	U	D	SD

Personality and Ideas on Effectiveness

This study is part of my work towards a Master of Education Degree. In carrying out this research I am hoping to find approximately 100 teachers and principals in the Whangarei district who may be prepared to participate.

The study aims to discover whether there is a relationship between a teacher's personality and what they believe effective teaching is about, not whether or not they personally are effective teachers!

To do this I am asking whether participants would fill in two questionnaires. The first, the Myers-Briggs Type Indicator is one of the most widely used personality measures in the world, being used in fields as diverse as Education, Business, and Medicine. It is concerned with the differences in people which result from the way they like to **perceive** (either through **sensing** or **intuition**); and **judge** (using **thinking** or **feeling** processes). Taken together these provide a picture of how people like to operate in their personal and business life.

The second questionnaire is one I have devised from my reading and seeks opinions about what people think are important ways of operating as teachers.

By asking people to fill out both, I hope to get a picture of whether particular personality types as measured by the Type Indicator have differing views of teacher effectiveness.

I believe this has exciting potential to assist individuals with understanding why they like to operate differently from others, for team building using differing strengths, and for teacher development programmes.

All those who participate will receive a written outline of their own personality type results.

Absolute individual confidentiality is guaranteed to any who agree to participate (although the results are much more likely to be the sort which people would want to share with one another).

Many thanks for considering this proposal

Steve Collins

THE MYERS-BRIGGS TYPE INDICATOR

The questions in the Myers-Briggs Type Indicator (MBTI) are not important in themselves, but they do indicate basic preferences that have far-reaching effects. **There is no right or wrong to these preferences**. This exercise is not a test. Think carefully and try to pick the patterns that really describe you best.

Soon after you have completed the Indicator results will be made available to you. This information is simply a way for you to start looking at the patterns in yourself and through this understanding help you deal with challenges and people in your life.

The Type Indicator is concerned with the valuable differences in people that result from the way they like to **perceive** (finding out is an exercise in perception) and the way they like to **judge** (deciding is an exercise in judgment).
One way of finding out (perceiving) is through your **sensing** while another is through your **intuition.**
One way to decide(judgment) is through your **thinking** and another is through your **feeling.**
The kind of perception you prefer to use, either sensing or intuition, can team up with whichever kind of judgment you prefer to use, either thinking or feeling. So there are four possible combinations, each producing a different set of characteristics - different interests, different values, different needs, different habits of mind and different surface traits.

Your own combination of perception and judgment makes a lot of difference in the kind of work you will do best and enjoy. To make full use of your perception and judgment, you need to use both kinds of perception and both kinds of judgment, each for the right purpose. Whenever you have a

problem, a decision to make, a situation to deal with exercising each process by itself, consciously, purposefully makes its own contribution to the solution. The MBTI is an extremely useful tool for finding out what those preferences are and learning to use them better.

Your involvement will also add to a resource pool for educational research. Confidentiality will be observed at all times.

NOTES TO ACCOMPANY QUESTIONNAIRES

The **MYERS-BRIGGS TYPE INDICATOR** (MBTI) is a registered Psychological instrument
It is one of the most widely used and acclaimed personality instruments in the world - by individuals and in the workplace.

IT IS NOT A TEST - there are no right or wrong answers

Through the instrument YOU determine your own personality type. No one tells you who you are
The questions in the MBTI booklet offer alternatives which are not important in themselves, but they look for basic personality preferences that have far reaching effects.

You often do both options at different times, in different situations with different people. In this exercise, you are being pressed to choose one alternative - a preference - ahead of another or others.

The options simple indicate that there are different kinds of people who are interested in different things, are drawn to different fields, and often find it hard to understand one another.

The MBTI is primarily concerned with the valuable differences in people that result from where they derive their energy, the way they like to take in information, they way they decide, and the kind of lifestyle they adopt.

Get comfortable in a place where you can concentrate.
Don't discuss it with others while you are working.
Read the directions on the front of the booklet.

To answer each question, FILL IN the appropriate circle - use either pencil or pen. Do not simply mark it.

If you do make a mistake, cross out the wrong answer and fill in the right one.

It is better to leave a question unanswered than to simply guess for the sake of filling in a circle.

If time is pressing, it is only NECESSARY to answer up and including Qn 95 - they are research questions after that.

TEACHER EFFECTIVENESS QUESTIONNAIRE
This questionnaire seeks your opinions on what you consider Effective Teaching to be. There are no right or wrong answers as each person will answer from their own perspective.

Please complete at least as far as question 10.05 on page 10. The written statements on effectiveness are optional after that.

Please return ALL questionnaires and booklets, along with answer sheet.

Many thanks

Steve Collins

Teacher Effectiveness and Personality Type Questionnaire

This questionnaire aims to determine the experience and behaviours which teachers believe are relevant to effective teaching practice.

All responses will be treated as entirely confidential to the respondent and the researcher and no individual information will therefore be divulged without the express permission of the respondent.

Thank you for taking the time to fill out the details which follow.

PART A **These questions aim to find any personal factors which predispose toward effective teaching**

Name _____

Address (Optional) _____

_____

_____

_____

1 **Gender** Male / Female

2 **Age**

19-24	25-29	30-34	35-39	40-44	45-49	50-54	55 +

3 **Marital Status**

Never Married	___
Married	___
Other	

4 **Number of Dependents** ☐

5 **Country Born** ☐

6 **Ethnic**

European	Maori	Pacific Islander	Asian	Other

7 Type of School -

Rural	Urban

8 Education

School Certificate.....Yes / No.
University Entrance / Sixth Form Certificate..... Yes / No
Bursary.....Yes / No.....
Scholarship.....Yes / No.....
Tertiary Study (incomplete) .....Yes / No

Tertiary Qualification (complete) State qualification
e.g.. (B.Ed)(N.C.B.).....

Currently Undertaking Tertiary Study..... Yes / No

If 'Yes' Study is aimed toward:.....(Qualification)

Years of Tertiary Study.....

9 Status within School

Beginning Teacher Y1 →
Beginning Teacher Y2 →
Teacher Scale A →
Senior Teacher →
Assistant Principal →
Deputy Principal →
Principal →
Other Position e.g. L.T.R.; Pt. Time

If Pt. Time indicate

10 Number of Schools Taught At

1-2	3-5	6-10	11-15	16+

11 Years at Present School

1-2	3-5	6-10	11-15	16+

12 **Total Years of Service**

1-2	3-5	6-10	11-15	16-20	21-25	26-30	31-35	36+

13 **Current Class Level Taught**

N.E / J1	J2	S1	S2	S3	S4	F1	F2

14 **Number of Professional Development Courses attended last year**

a) In School Hours _____

b) Out of School Hours _____

15 **Please list any professional development courses you have ever taken of one week full time or longer or other courses which have required a significant number of attendances to complete**

Course_____Approx.Duration_____Yr _____

Course_____Approx.Duration_____ Yr _____

Course_____Approx.Duration_____ Yr _____

16 **Estimated average hours worked each week at school.**

< 25	26-30	31-35	36-40	41-45	46-50	51-55	55+

17 **Estimated average hours worked each week on school business away from School**

1-2	3-5	6-10	11-15	16-20	21-25	26-30	31-35	36+

18 **Estimated average total hours spent on school related activities each week**

Total _____hours i.e. (Total of Questions 16 & 17)

19 **Professional groups to which you belong**

Group _____committee member / office holder

Group _____committee member / office holder

Group _____committee member / office holder

20 **Other experiences (e.g.: study, other work, influence of mentors), which you feel may have contributed positively to the quality of your teaching**

a_____

b_____

c_____

PART B These questions are concerned with attitude toward operating in classroom and school contexts. Please try to answer by considering what you personally believe an effective teacher should do or be like.

Indicate your reaction to the following statements by circling the response that most nearly coincides with your own beliefs about your teaching.

SA = Strongly Agree; A = Agree; U = Uncertain; D = Disagree; SD = Strongly Disagree

1.01	Professional reading improves my teaching.	SA A U D SD
1.02	The best inservice courses are those of a practical nature	SA A U D SD
1.03	Professional reading should be a requirement of every teacher	SA A U D SD
1.04	Teachers should refer to theory when they are unsure	SA A U D SD
1.05	A theoretical base underlies my teaching	SA A U D SD
1.06	Experience in teaching is more important than theory	SA A U D SD
1.07	Good teachers do not need theory	SA A U D SD
2.01.	Teachers need to be aware of what other syndicates in the school are doing	SA A U D SD

2.02	Teachers cannot function effectively without being aware of the standards required in the school for older and younger children	SA	A	U	D	SD
2.03	Liaison with pre school and high school agencies is vital to effective teaching	SA	A	U	D	SD
2.04	Interschool visits for other than sports are not educationally valid	SA	A	U	D	SD
2.05	To be effective, teachers need to contact <u>all</u> parents regularly (not just at report interview times).	SA	A	U	D	SD
2.06	Parents should be allowed to have input into what is taught	SA	A	U	D	SD
2.07	Schools function best as individual units independent of other schools	SA	A	U	D	SD
2.08	Effective teachers are involved in educationally related organisations	SA	A	U	D	SD
2.09	Effective teachers need to continually change and refine their skills	SA	A	U	D	SD
2.10	Children should be taught by one teacher per year	SA	A	U	D	SD
2.11	BOT's are essential for effective school functioning	SA	A	U	D	SD
3.01	Teachers should compare written planning with one another	SA	A	U	D	SD

3.02	Teachers should observe one another's teaching	SA A U D SD
3.03	Assessments of another's teaching should be avoided	SA A U D SD
3.04	Teachers should use others to assist them to improve their teaching	SA A U D SD
3.05	Shared teaching (where two teachers fill one position) is an excellent method of providing for the learning needs of children	SA A U D SD
3.06	The single cell classroom is the most effective teaching system	SA A U D SD
3.07	Open plan classrooms allow for greatest teacher interaction	SA A U D SD
3.08	Effective teacher development does not necessarily need to include observation of other teachers	SA A U D SD
4.01	Optimistic Teachers gain the best results	SA A U D SD
4.02	Teachers who believe they are teaching well do a better job than those without this attitude	SA A U D SD
4.03	Teacher expectations determine student success	SA A U D SD
4.04	Student failure is more related to background than teacher inefficiency	SA A U D SD
4.05	A principal's involvement is critical in determining teacher effectiveness	SA A U D SD

4.06	The senior teaching staff's involvement is critical in determining teacher effectiveness	SA A U D SD
4.07	A carefully structured programme is the key to successful teaching	SA A U D SD
4.08	It is best to teach each curriculum area separately	SA A U D SD
4.09	Detailed written records are a sign of effective teaching	SA A U D SD
4.10	Effective teachers control pupils best by the use of praise	SA A U D SD
4.11	Pupil obedience is more important than pupil responsibility in the classroom	SA A U D SD
4.12	A well controlled classroom is the mark of an effective teacher	SA A U D SD
4.13	Badly disciplined children are usually the result of influences outside the school rather than ineffective teaching	SA A U D SD
4.14	Effective teachers like all pupils equally	SA A U D SD
4.15	The main obstruction to effective teaching is the large number of teacher student interactions carried out in any one day	SA A U D SD
4.16	Appraisal improves the performance of effective teachers	SA A U D SD
4.17	Slower children tend to get more attention in effective classrooms	SA A U D SD
5.01	Facts need to be taught formally as part of the curriculum.	SA A U D SD
5.02	It is important to be able to analyse classroom situations impersonally	SA A U D SD
5.03	I take a practical approach to teaching	SA A U D SD

5.04	I prefer to teach subjects which have a direct relevance to real life	SA	A	U	D	SD
5.05	I try to be a role model for my students	SA	A	U	D	SD
5.06	Effective teachers share knowledge and personal experiences with the children	SA	A	U	D	SD
5.07	Curriculum guides and text books provide the best basis for my teaching.	SA	A	U	D	SD
5.08	Detailed teaching plans should be made before the year or term starts.	SA	A	U	D	SD
5.09	Specific objectives should guide teaching	SA	A	U	D	SD
5.10	Effective teachers should have a daily routine which is seldom subject to change	SA	A	U	D	SD
5.11	Effective teachers should direct all activities in the classroom	SA	A	U	D	SD
5.12	Effective teachers give marks for children's work	SA	A	U	D	SD
5.13	I believe a teacher is only successful when pupil's marks and behaviour improve	SA	A	U	D	SD
6.01	I believe the teacher should teach facts provided this is in a supportive environment	SA	A	U	D	SD
6.02	I believe that teachers get the best from children when they are taught in sympathetic and friendly manner	SA	A	U	D	SD
6.03	I am good at giving practical assistance to people	SA	A	U	D	SD
6.04	An effective teacher uses syllabus guidelines and text books, but should also seek other teacher's ideas	SA	A	U	D	SD
6.05	I like to make detailed teaching plans well in advance but only after I take into account children's abilities.	SA	A	U	D	SD

6.06 An effective teacher has a daily routine, which includes person centred interactions. SA A U D SD

6.07 Effective teachers supplement the use of marks with other credit options SA A U D SD

6.08 Effective teaching occurs only if
a) a contribution has been made to a student's education through pupil participation in the learning situation
and
b) pupil marks and behaviour improve SA A U D SD

7.01 Effective teachers focus on possibilities SA A U D SD

7.02 Effective teachers are extremely insightful SA A U D SD

7.03 Understanding of others is a sign of an effective teacher SA A U D SD

7.04 Effective teachers see motivation as essential SA A U D SD

7.05 An effective teacher finds ideas from everywhere' SA A U D SD

7.06 An effective teacher plans in a general way then adapts plans to student needs as often as necessary SA A U D SD

7.07 An effective teacher does not need to focus on routines, but instead uses a flexible pattern to teach SA A U D SD

7.08 Effective teachers use a wide range of evaluation options, of which grades are only one part SA A U D SD

7.09 Teachers are effective only if they improve student learning and participation and make a personal contribution of their own to the student's education SA A U D SD

8.01 An effective teachers sees possibilities but then uses personal logic to analyse them. SA A U D SD

8.02 An effective teacher enjoys the contribution made by theory SA A U D SD

8.03	An effective teacher enjoys the challenges posed by development and change.	SA	A	U	D	SD
8.04	An effective teacher inspires pupils to develop as citizens and persons	SA	A	U	D	SD
8.05	An effective teacher takes the time to combine ideas from many sources	SA	A	U	D	SD
8.06	An effective teacher uses overall plans, organising these by themes or concepts, but determines the details by using student levels	SA	A	U	D	SD
8.07	An effective teacher has a flexible daily routine which varies according to topics and student need and relies on teacher driven expectations for control and learning	SA	A	U	D	SD
8.08	Effective teaching is defined by increasing involvement in learning	SA	A	U	D	SD
9.01	An effective classroom is very quiet	SA	A	U	D	SD
9.02	Effective teachers avoid giving out tasks which take a long time	SA	A	U	D	SD
9.03	Effective teachers often need time to be sure the right decisions are made	SA	A	U	D	SD
9.04	Ideas for teaching are best worked out on one's own before consulting others	SA	A	U	D	SD
10.01	To be effective teachers need to keep carefully to schedules and programmes	SA	A	U	D	SD
10.02	Effective teachers adapt readily to change and enjoy the novelty of new possibilities even if this sometimes means changing a previously agreed decision	SA	A	U	D	SD
10.03	Effective teachers should take a firm stance and stick to it	SA	A	U	D	SD
10.04	Effective teachers give their pupils as much autonomy as possible	SA	A	U	D	SD

10.05 Effective teachers provide a wide variety of activities in the classroom situation SA A U D SD

Please make 3 - 5 statements on what you believe an effective teacher is / does

1 An effective teacher .....

.....

.....

2 An effective teacher.....

.....

.....

3 An effective teacher.....

.....

.....

4 An effective teacher.....

.....

.....

5 An effective teacher.....

.....

.....

Please feel free to make any comments below about this questionnaire or issues it raises for you.

.....

.....

.....

Marking key for questionnaire

Column	Question No.		
A -	Christian name		
B -	Surname		
C -	School Name		
D -	Identification No.	= 1 - 145	
E -	School No.	= 1 - 2	
F -	MBTI Initial Assessment	ISTJ	=1
		ISFJ	=2
		INFJ	=3
		INTJ	=4
		ISTP	=5
		ISFP	=6
		INFP	=7
		INTP	=8
		ESTP	=9
		ESFP	=10
		ENFP	=11
		ENTP	=12
		ESTJ	=13
		ESFJ	=14
		ENFJ	=15
		ENTJ	=16
G -	MBTI Claimed	ISTJ	=1
		ISFJ	=2
		INFJ	=3
		INTJ	=4
		ISTP	=5
		ISFP	=6
		INFP	=7
		INTP	=8
		ESTP	=9
		ESFP	=10
		ENFP	=11
		ENTP	=12
		ESTJ	=13
		ESFJ	=14
		ENFJ	=15
		ENTJ	=16

H	1	**Gender**	MALE = 1 ; FEMALE = 2	
I	2	**Age**	1	= 19 - 24
			2	= 25 - 29
			3	= 30 - 34
			4	= 35 - 39
			5	= 40 - 44
			6	= 45 - 49
			7	= 50 - 54
			8	= 55+
J	3	**Marital Status**	Never married	= 1
			Married	= 2
			Other	= 3
K	4	**No. of Dependents**	= actual number	
L	5	**Country Born**	New Zealand	= 1
			Canada	= 2
			Sudan	= 3
			Australia	= 4
			England	= 5
			Switzerland	= 6
			Burma	= 7
			Sth. Africa	= 8
			Kenya	= 9
M	6	**Ethnic**	European	= 1
			Maori	= 2
			Pacific Island	= 3
			Asian	= 4
			Other	= 5
N	7	**Type of School**	Rural	= 1
			Urban	= 2
O	8	**Qualifications**	Reg. Teach/Dip Tch	= 1
			Advance Dip Tch	= 2
			Bachelors	= 3
			High Dip Tch/Dip Ed	= 4
			Masters +	= 5
P	9	**Status in School**	Beginning Tch 1st yr	= 1
			Beginning Tch 2nd yr	= 2
			Teacher Scale A	= 3
			Senior Teacher	= 4
			Assistant Principal	= 5

			Deputy Principal	= 6
			Principal	= 7
			Other	
			(Pt Timer / Tutor etc)	= 8
Q	10	**No. Of Schools Taught At**	1 - 2	= 1
			3 - 5	= 2
			6 - 10	= 3
			11 - 15	= 4
			16 +	= 5
R	11	**Years at present school**	1 - 2	= 1
			3 - 5	= 2
			6 - 10	= 3
			11 - 15	= 4
			16 +	= 5
S	12	**Total Years of Service**	1 - 2	= 1
			3 - 5	= 2
			6 - 10	= 3
			11 - 15	= 4
			16 - 20	= 5
			21 - 25	= 6
			26 - 30	= 7
			31 - 35	= 8
			36 +	= 9
T	13	**Current Class Level Taught**	N.E./J1	= 1
			J2	= 2
			S1	= 3
			S2	= 4
			S3	= 5
			S4	= 6
			F1	= 7
			F2	= 8
			No class / non tchng	= 9
U	14	**No. of courses attended**	= Actual number attended	
V	15	**Longer Inservice courses attended**		
			1	= 1
			2	= 2
			3	= 3
			4	= 4

W 16 **Estimated Hours Worked at School**

< 25	= 1
26 - 30	= 2
31 - 35	= 3
36 - 40	= 4
41 - 45	= 5
46 - 50	= 6
51 - 55	= 7
56 +	= 8

X 17 **Hrs wkd on sch. business away from sch.**

1 - 2	= 1
3 - 5	= 2
6 - 10	= 3
11 - 15	= 4
16 - 20	= 5
21 - 25	= 6
26 - 30	= 7
31 - 35	= 8
36 +	= 9

Y 18 **Total hours worked on school business**

< 40	= 1
40 - 50	= 2
51 - 60	= 3
61 - 70	= 4
70 +	= 5

Z 19 **No. of professional grps to which you belong**

1	= 1
2	= 2
3	= 3
4	= 4

AA / AB / AC 20 **Other experiences which may have contributed positively to teaching quality**

Nil	= 0
Parent / parenting / family	= 1
Preschool involvement	= 2
Hobbies etc.	= 3
Flexibility	= 4
Variety of schools taught at	= 5
University / tertiary study	= 6
Principalship	= 7
Overseas experience / travel	= 8
Church / Religious beliefs	= 9
Involvement with vol. org.	= 10
Professional reading	= 11
Positive goal setting	= 12
Other employment	= 13
Professional courses	= 14
Mentors / friends outside schl	= 15
Colleague prof. support	= 16
Non - professional courses	= 17
Ambition / personal pride	= 18
Negative examples of tchg	= 19
Outside interests such as sport	= 20
Other	= 21

Col.	Ques No.	Score	Col.	Ques No.	Score	Col.	Ques No.	Score
AD	1.01	= 1,2,3,4,5	AK	2.01	= 5,4,3,2,1	AV	3.01	= 5,4,3,2,1
AE	1.02	= 1,2,3,4,5	AL	2.02	= 5,4,3,2,1	AW	3.02	= 5,4,3,2,1
AF	1.03	= 5,4,3,2,1	AM	2.03	= 5,4,3,2,1	AX	3.03	= 1,2,3,4,5
AG	1.04	= 5,4,3,2,1	AN	2.04	= 1,2,3,4,5	AY	3.04	= 5,4,3,2,1
AH	1.05	= 5,4,3,2,1	AO	2.05	= 5,4,3,2,1	AZ	3.05	= 5,4,3,2,1
AI	1.06	= 1,2,3,4,5	AP	2.06	= 5,4,3,2,1	BA	3.06	= 1,2,3,4,5
AJ	1.07	= 1,2,3,4,5	AQ	2.07	= 1,2,3,4,5	BB	3.07	= 5,4,3,2,1
			AR	2.08	= 5,4,3,2,1	BC	3.08	= 1,2,3,4,5
			AS	2.09	= 5,4,3,2,1			
			AT	2.10	= 1,2,3,4,5			
			AU	2.11	= 5,4,3,2,1			

Col.	Ques No.	Score	Col.	Ques No.	Score	Col.	Ques No.	Score
BD	4.01	= 5,4,3,2,1	BU	5.01	= 5,4,3,2,1	CH	6.01	= 5,4,3,2,1
BE	4.02	= 5,4,3,2,1	BV	5.02	= 5,4,3,2,1	CI	6.02	= 5,4,3,2,1
BF	4.03	= 5,4,3,2,1	BW	5.03	= 5,4,3,2,1	CJ	6.03	= 5,4,3,2,1
BG	4.04	= 1,2,3,4,5	BX	5.04	= 5,4,3,2,1	CK	6.04	= 5,4,3,2,1
BH	4.05	= 5,4,3,2,1	BY	5.05	= 5,4,3,2,1	CL	6.05	= 5,4,3,2,1
BI	4.06	= 5,4,3,2,1	BZ	5.06	= 5,4,3,2,1	CM	6.06	= 5,4,3,2,1
BJ	4.07	= 5,4,3,2,1	CA	5.07	= 5,4,3,2,1	CN	6.07	= 5,4,3,2,1
BK	4.08	= 5,4,3,2,1	CB	5.08	= 5,4,3,2,1	CO	6.08	= 5,4,3,2,1
BL	4.09	= 5,4,3,2,1	CC	5.09	= 5,4,3,2,1			

BM	4.10	= 5,4,3,2,1	CD	5.10	= 5,4,3,2,1
BN	4.11	= 1,2,3,4,5	CE	5.11	= 5,4,3,2,1
BO	4.12	= 5,4,3,2,1	CF	5.12	= 5,4,3,2,1
BP	4.13	= 1,2,3,4,5	CG	5.13	= 5,4,3,2,1
BQ	4.14	= 1,2,3,4,5			
BR	4.15	= 5,4,3,2,1			
BS	4.16	= 5,4,3,2,1			
BT	4.17	= 5,4,3,2,1			

Col.	Ques No.	Score	Col.	Ques No.	Score	Col.	Ques No.	Score
CP	7.01	= 5,4,3,2,1	CY	8.01	= 5,4,3,2,1	DG	9.01	= 5,4,3,2,1
CQ	7.02	= 5,4,3,2,1	CZ	8.02	= 5,4,3,2,1	DH	9.02	= 1,2,3,4,5
CR	7.03	= 5,4,3,2,1	DA	8.03	= 5,4,3,2,1	DI	9.03	= 5,4,3,2,1
CS	7.04	= 5,4,3,2,1	DB	8.04	= 5,4,3,2,1	DJ	9.04	= 5,4,3,2,1
CT	7.05	= 5,4,3,2,1	DC	8.05	= 5,4,3,2,1	DK	10.01	= 5,4,3,2,1
CU	7.06	= 5,4,3,2,1	DD	8.06	= 5,4,3,2,1	DL	10.02	= 5,4,3,2,1
CV	7.07	= 5,4,3,2,1	DE	8.07	= 1,2,3,4,5	DM	10.03	= 1,2,3,4,5
CW	7.08	= 5,4,3,2,1	DF	8.08	= 5,4,3,2,1	DN	10.04	= 5,4,3,2,1
CX	7.09	= 5,4,3,2,1				DO	10.05	= 5,4,3,2,1

DP 11.01 ; DQ 11.02 ; DR 11.03 ; DS 11.04 ; DT 11.05 Statements:-
"An effective teacher is / does..."

Analysis	Code	Factor
Data gathering for level of student	= 1	1
Confidence / self esteem in children / Respects chn.	= 2	1
Extended day - teacher commitment	= 3	3
Responds to individual needs of children / Individual differences	= 4	1
Organised as a teacher	= 5	3
Flexibility / open mindedness	= 6	1
Teacher as communicator	= 7	4
Learning meaningful to chn / love of learning	= 8	1
Autonomy of children / chn taking responsibility	= 9	1
Positive / lively environment	= 10	1
Teacher set routines	= 11	3
Humour / enjoyment etc.	= 12	1
Outside interests - balanced lifestyle	= 13	4
Well planned	= 14	3
Upskilling of teacher - teacher professional courses	= 15	2
Balanced programme / variety of approaches	= 16	1
Consistency in dealing with children	= 17	3
Clear expectations in terms of control / discipline	= 18	3
Innovative / creative teaching - change	= 19	1
Good relationships with children / motivator / challenger / facilitator	= 20	1
Shares with colleagues (tchrs)	= 21	2
Provides real life experiences for chn	= 22	4
Personal ethics / tchr as role model	= 23	4
Reads - theory into practice	= 24	4
Culturally sensitive	= 25	1
Self confidence	= 26	3
Seeks assistance (tchr)	= 27	2
Teacher as self - evaluator	= 28	2
Questioner	= 29	1
Needs Principal's support	= 30	2
Bypasses distractions	= 31	1
Does NOT focus on theory	= 32	4
Increases chn's standards	= 33	3
Is aware of equity issues	= 34	1
Teaches the basics	= 35	4
Has mana/aroha	= 36	1
Open door policy/ home & school liaison	= 37	2
Understands school objectives	= 38	2
Teaches processes not facts	= 39	1
Knows subject being taught/ Teacher as expert	= 40	4
Personal contribution, satisfaction, achievement	= 41	4

MYERS-BRIGGS TYPE FOLLOW UP
RESPONSE SESSIONS

[redacted]

27 / 10 / 93

Dear Principal,

When I first approached you about involvement in my research, I indicated that participants would each receive a response in regard to the Personality Indicator.

As this has now been carried out, I would appreciate your feelings about the feedback session with Dr. Alan Webster, its interest, appropriateness and value etc. and any other other comments you may wish to make.

Please forward comments to the above address,

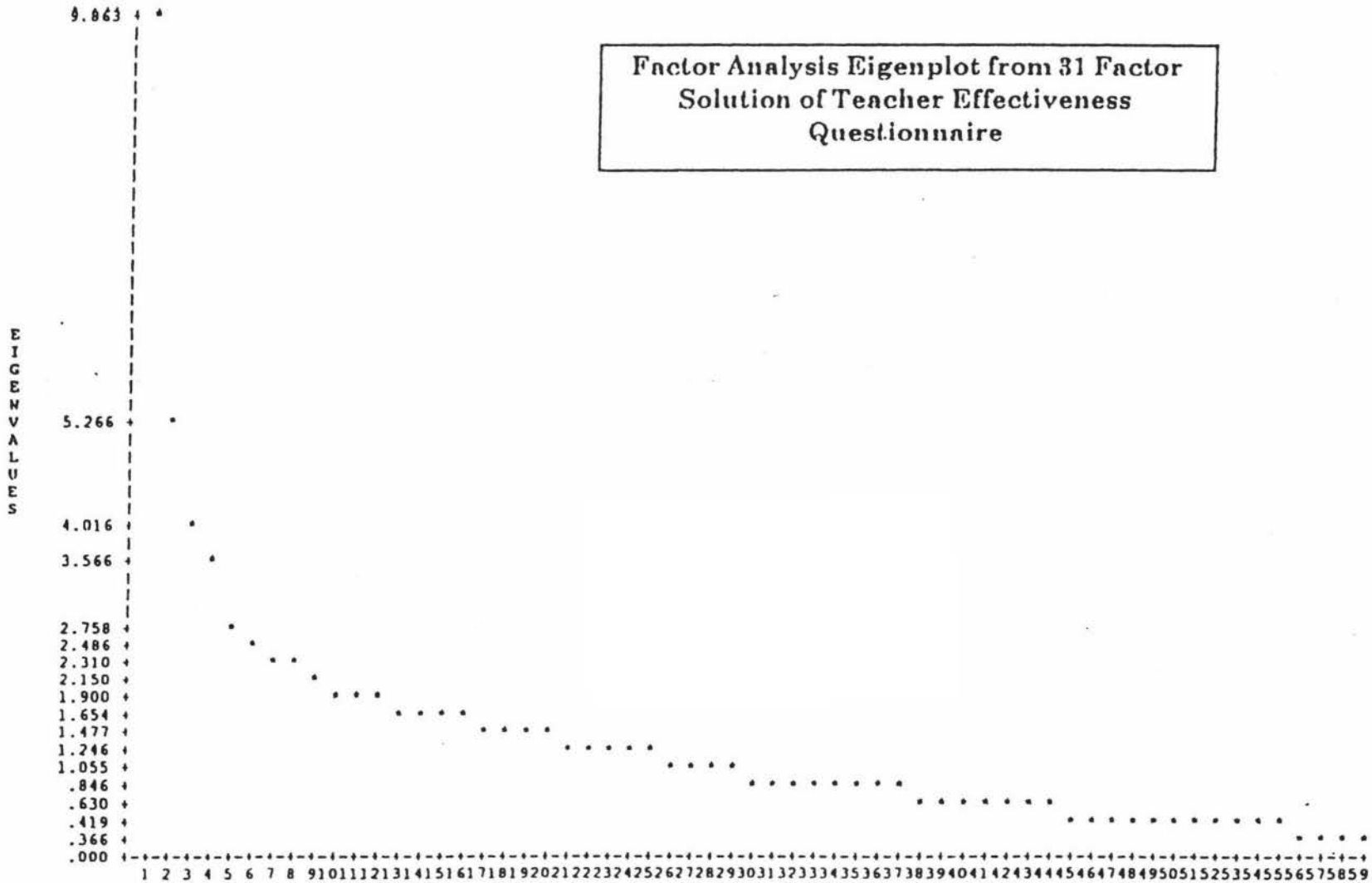
Many thanks

Steve Collins

Comments

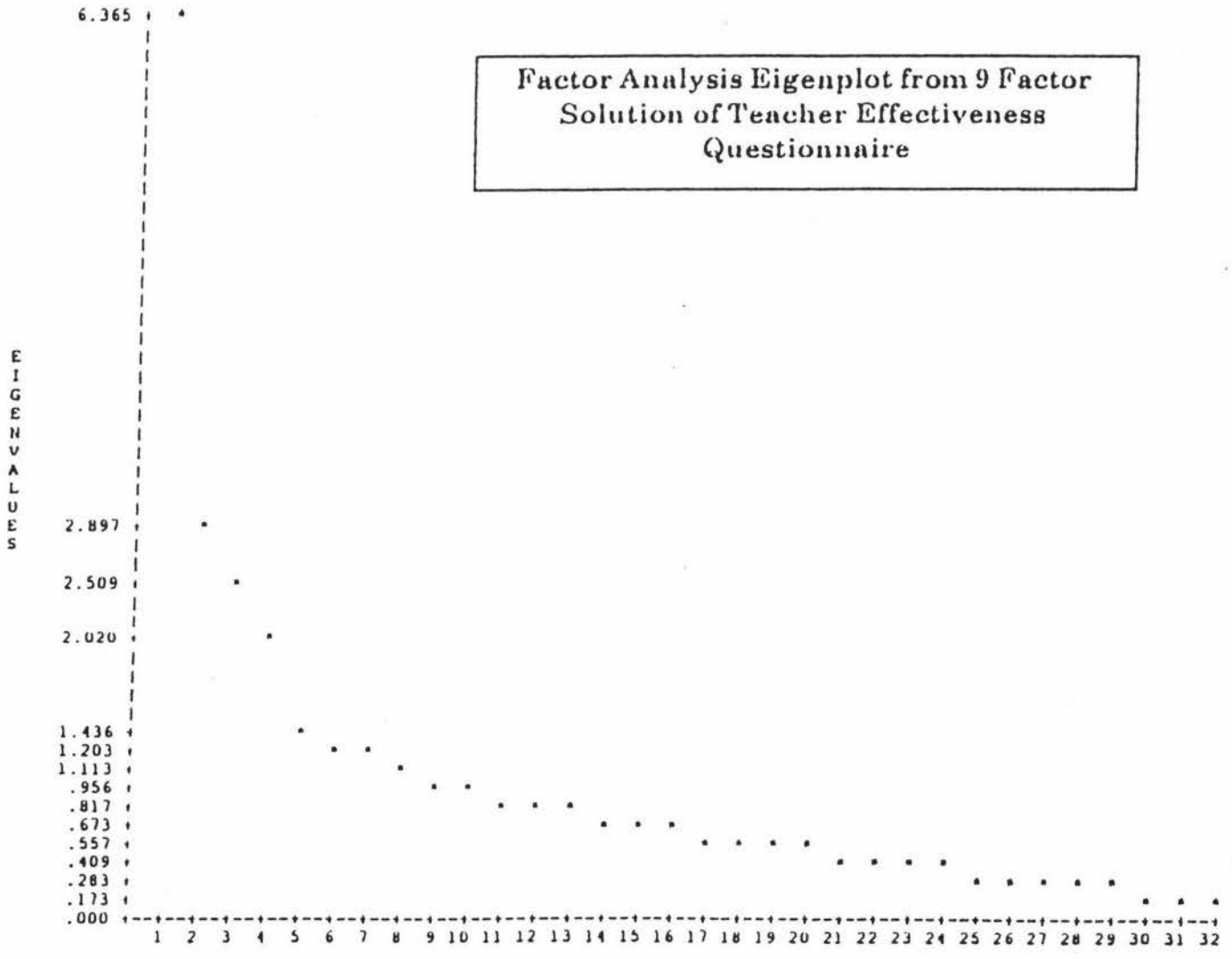
Appendix 2

Factor Analysis Eigenplot from 31 Factor Solution of Teacher Effectiveness Questionnaire



Rotated Factor Matrix using a 9 Factor Solution from Teacher Effectiveness Questionnaire

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5	FACTOR 6	FACTOR 7	FACTOR 8	FACTOR 9
CT	.82973	.20160	.19768	.06600	.01260	.12413	-.04690	.07930	.02992
CU	.71479	.14092	.17105	.08186	-.23399	-.03453	.02577	.10830	-.08905
CS	.62061	.27919	.20488	-.06834	-.20494	.24140	.01467	.19549	.14232
DC	.57093	-.05673	.52291	.01379	.03437	.23391	-.17154	.06308	.16851
DA	.53175	.20187	.18514	.51263	-.01685	.03795	.14829	-.07627	-.12285
CP	.18252	.77006	.06046	.05426	-.03756	.08599	-.09896	-.01129	.07967
CR	.24951	.66172	.26199	-.02482	-.09196	.16815	-.08356	.01666	-.15996
CZ	.19356	.59935	.08137	.49324	.03675	.06584	.03581	-.05941	.04517
CQ	.12212	.59834	.17484	.00522	-.03667	-.06021	-.13738	.23257	.02496
AH	-.29222	.51191	-.03714	.44766	.06239	.21936	-.10059	.10886	.21712
DB	.29857	.04838	.68766	.13681	.03598	.13856	-.04763	.06946	.06749
DO	.11851	.16614	.66139	-.09838	-.07992	-.00515	.04176	.20504	.25044
DL	.22660	.28166	.57947	-.00858	-.15024	-.13110	-.00317	-.13101	-.08275
DF	.09251	.25599	.48825	.24379	.10098	.25356	-.26350	-.05245	-.27428
BYS	.03857	.02057	.45002	-.09637	-.41972	.24795	.30432	.18697	-.02509
BZ	.11296	.09329	.44458	-.21018	-.26009	.23772	.36545	.10072	-.00572
AF	.07609	.10833	.31182	.63971	.13581	-.07320	-.00776	.15842	.01620
AI	-.04941	.10907	-.17856	.59684	-.16392	.08645	-.32498	.05281	-.11963
BG	.13878	-.17933	-.22626	.52328	-.18764	.14128	-.07133	-.20372	.11479
AJ	-.05996	.17995	-.05700	.51486	-.14744	-.23741	.02329	.19189	.38106
CC	.04435	-.14159	.03119	.45354	-.26766	.28766	.32340	.06248	.27504
BK	-.09330	-.03714	-.10635	-.03271	.70799	.12863	.00103	.07182	.09092
CF	-.16327	-.02311	.05654	-.22204	.68227	.03051	.17303	.12703	.14081
CE	-.06279	-.06437	-.14003	-.00669	.55638	-.10115	.44940	.05021	-.25431
BI	.10578	.21901	.14714	-.03920	.05460	.78269	.05824	.05440	.11505
BH	.16853	.02386	.03972	.13948	.04618	.75476	.12072	.15484	.04899
CD	.03836	-.15998	-.10236	-.15962	.12326	.02310	.67872	-.24875	.07225
BJ	-.04503	-.17461	.08313	.10912	.15746	.24631	.62550	.27659	.06564
BE	.10617	-.05255	.20495	.13516	.27073	.08193	.06366	.71291	.01641
BD	.21441	.36911	-.04070	-.02630	-.06051	.23389	-.08387	.68938	-.05819
AV	.00070	-.01272	.15430	.14940	.30413	.14784	.01578	-.06200	.73378
CH	.43969	.16427	.01182	-.04728	-.15310	.26115	.21249	-.02688	.46145


Factor Analysis Eigenplot from 9 Factor Solution of Teacher Effectiveness Questionnaire
EIGENVALUES
6.365
2.897
2.509
2.020
1.436
1.203
1.113
.956
.817
.673
.557
.409
.283
.173
.000
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32

Rotated Factor Matrix using a 4 Factor Solution from Teacher Effectiveness Questionnaire

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
CR	.66739	.01850	-.12262	-.04520
CS	.58074	.31752	-.17637	-.23795
CP	.57605	.04482	-.06777	.09044
CQ	.57470	-.05955	.03250	.06074
CT	.57405	.30988	-.22077	-.15376
DF	.55633	-.00037	-.03229	.04219
CZ	.53867	.17434	-.06884	.41292
BO	.52744	.07384	.18579	.01906
DN	.50705	.04143	.08586	.10577
CU	.49792	.13632	-.32844	-.17129
DB	.48633	.34608	-.11602	-.17947
DC	.47596	.36288	-.22540	-.27251
DL	.47210	.05816	-.24127	-.19267
CI	.46893	-.04188	.04742	-.12204
DO	.46752	.21600	-.00705	-.28601
DD	.45727	.07772	-.25407	-.13247
BH	.45245	.14579	.07905	.04441
DA	.41096	.32560	-.25172	.12790
CX	.40070	.00878	.17397	.04912
CY	.40069	.04502	-.00159	-.04692
CD	-.39801	.36598	.16615	-.22135
AY	.38245	.23679	-.16388	.11020
AS	.36558	.26592	-.11277	.05932
AD	.35956	.08148	.15592	.30322
BF	.35239	.08396	-.04341	-.01393
AG	.34013	.08873	.23152	.32287
BV	.33743	-.02638	.30287	.09397
CO	.33544	.06783	.03731	-.03314
AR	.30459	.20594	.11852	.29216
BN	.28007	-.04089	-.17789	.11000
AZ	.18287	.04614	.06443	-.00712
AV	-.02377	.54292	.17829	.15184
BH	.18995	.53087	.08189	-.01679
CC	.00365	.50766	-.05326	.25883
BJ	-.12197	.50029	.31668	-.07358
AW	.10618	.49886	-.06838	-.14091
CM	.26645	.49326	-.08317	-.12820
AK	.17746	.47793	-.10872	-.00061
BS	-.00518	.46558	-.03253	.09747
BI	.32219	.46499	.13972	-.12052
CB	.00219	.46322	.19105	.15972
AO	.13072	.44496	.07222	-.04489
CK	.27480	.44117	-.03195	-.10744
AH	.05688	.41070	.10160	-.09366
AU	.06976	.40930	.06930	-.02238
CL	-.00331	.39782	.05414	.03207
AL	.16172	.39328	.08384	-.10641
AX	-.03038	.37974	-.11563	.18939
CV	.33077	-.36624	.03230	-.08487
BYS	.23516	.34937	-.12680	-.34117
BL	-.04645	.33814	.24478	.28703
CA	-.08128	.33424	.27252	.24225
AQ	.11184	.30621	-.26851	.10641
BC	.10273	.22924	.02906	.11796
CN	.19523	.21133	.12800	-.01887
AP	-.02499	.20998	-.08765	.00677
BQ	-.09719	-.16569	-.08328	.09303
CF	-.12240	.07036	.56046	-.17038
BK	-.11070	.06792	.53255	.04791
CE	-.22820	-.01040	.49483	-.09390
DK	-.22964	.02522	.48344	.03259
DJ	.01808	-.07307	.45664	.02886
BT	.06003	.04496	.45400	-.00260
BE	.31053	.17669	.44804	-.02107
CG	.21195	-.00164	.42202	.06532
DM	.19173	.00498	-.41545	.12953
BU	-.06851	.13159	.41129	-.09459
DI	.12539	.00225	.32043	.10310
BB	.18500	.08360	.30999	-.01444
DG	-.18180	.06220	.30741	.13023
BP	.02579	.09487	-.30196	.05892
CW	.23633	-.08009	-.23656	-.08089
DH	-.10503	-.18714	-.22544	.04692
CH	.07587	.00761	.22024	.03915
BO	-.00579	.02506	.21681	-.13813
AN	.19347	.19547	-.20377	.07410
AT	-.04297	-.17278	-.19975	.19382
BR	-.14597	.17140	.18583	-.04120
AI	.13904	-.07461	-.25200	.59294
AJ	.17562	.11393	.01137	-.55654
AH	.34404	.07691	.15574	.53372
BZ	.33684	.23937	-.04228	-.45991
BG	-.08819	.22275	-.31947	.45407
AF	.39774	.20648	.03031	.41837
BA	.02118	.07492	-.29418	.40364
BW	.10810	-.04441	.00600	-.40112
BX	.03484	.32479	.04631	-.39542
AE	-.03270	-.11462	-.14310	.36602
CJ	.21637	.03213	-.03438	-.31621
DE	-.23900	.05653	.05893	.28391

Percentages of age of participants in the Teacher Effectiveness and Personality Type Study

	A	B
1	19-24	11.03
2	25-29	5.52
3	30-34	8.97
4	35-39	15.86
5	40-44	24.14
6	45-49	20
7	50-54	8.28
8	55 +	6.2

Claimed Personality Type Compared with Age Groups.

Claimed Personality Type	Group 1 19-24 yrs	Group 2 25-29 yrs	Group 3 30-34 yrs	Group 4 35-39 yrs	Group 5 40-44 yrs	Group 6 45-49 yrs	Group 7 50-54 yrs	Group 8 55+ yrs	TOTAL
ISTJ			2	3	6		2	2	15
ISFJ	4	1	2	4	2	3		2	18
INFJ	1		2		1	1	1		6
INTJ	1		1		5	3	1	3	14
ISTP	1	1			1	1			4
ISFP	2			1	1		1		5
INFP		1	1	3	5	2		1	13
INTP					2	3	1	1	7
ESTP	2	1	1	1			1		6
ESFP	1	2		1	1	1	1		7
ENFP	1	1		2	3	6			13
ENTP		1				1			2
ESTJ			2	3		4			9
ESFJ	2		1	3	5	2	3		16
ENFJ			1	2	2		1		6
ENTJ			1		2	1			4
TOTALS	15	8	14	23	36	28	12	9	145

Claimed Personality Type and Academic Qualifications of Teacher Effectiveness Participants

Claimed Personality Type	Group 1 Dip Teach	Group 2 Adv.Dip Teach	Group 3 Bach. Degree	Group 4 High.Dip Teach	Group 5 Mast. plus	Total
ISTJ	10	2	2		1	15
ISFJ	16		2			18
INFJ	5	1				6
INTJ	6	2	2	2	2	14
ISTP	3			1		4
ISFP	4		1			5
INFP	9	3	1			13
INTP	4	1	2			7
ESTP	3		3			6
ESFP	6	1				7
ENFP	7	2	4			13
ENTP	1	1				2
ESTJ	4	3	1	1		9
ESFJ	13	3				16
ENFJ	2	3	1			6
ENTJ	2	2				4
TOTALS	95	24	19	4	3	145

Claimed MBTI Personality Type and Status Within the Schools of Teacher Effectiveness Participants

Claimed Personality Type	Grp 1 B.T.1	Grp 2 B.T.2	Grp 3 Tchr. Sc A	Grp 4 Sen. Teach	Grp 5 Ass. Princ	Grp 6 Dep. Princ	Grp 7 Princ.	Grp 8 Pt. Time, Spec	Total
ISTJ			6	2		2	3	2	15
ISFJ		1	10	1		2	1	3	18
INFJ		1	1	3			1		6
INTJ			4		1	2	3	4	14
ISTP	1	1	2						4
ISFP		1	3		1				5
INFP			4	1	1	4	1	2	13
INTP			3	1			1	2	7
ESTP	1	1	3				1		6
ESFP			4			1	1	1	7
ENFP		1	5	3	2	1		1	13
ENTP		1				1			2
ESTJ				1		2	4	2	9
ESFJ	1		7	2	3			3	16
ENFJ			3		1		1	1	6
ENTJ			2			1	1		4
TOTALS	33	7	57	14	9	16	18	21	145

Class Level the Participants work with in Teacher Effectiveness Survey

Class Level	Participant Numbers	Percentages
N.E-J1	24	16.55
J1+J2	23	15.86
J2-S1	16	11.03
S1+2	10	6.9
S2+3	16	11
S3+4	8	5.52
S4-F1	13	8.97
FI+II	7	4.83
Other	28	19.31

Number of Schools in Which Teachers have Taught

Number of Schools	Number of Participants	Percentage
1 to 2	28	19.31
3 to 5	35	24.14
6 to 10	66	45.52
11 to 15	11	7.58
16 +	5	3.45

Hours Worked on School Matters by Teacher Effectiveness Survey Participants

Group	Hours Worked per	Number	Percentage
1	< 40	19	13.1
2	40-50	67	46.21
3	51-60	50	34.48
4	61-70	8	5.52
5	70+	1	0.69

The Number of Professional Groups the Participants Belong to

Number of Grps Tchrs Belong to	Participants	Percentages
0	82	56.55
1	30	20.69
2	18	12.41
3	11	7.59
4	4	2.76

Status Versus Gender

Status	Female	Male
Scale A	53	14
Senior Tch	12	2
Ass. Princ	9	0
Dep. Princ	6	10
Principal	7	11
Part Tim; Spec	20	1
Total	**107**	**38**

Number of Written Opinions of Participants Categorised into the Four Factors

Factor	Raw Scores	Percentage
1 Responsive Teaching	320	63.37
2 Professional Teamwork	55	10.89
3 Planning & Management	79	15.64
4 Experience	51	10.1

Changes Occurring from Initial Type to Claimed Type

Initial	Claimed
ESTJ	ESFJ
ISTP	ESFP
INTJ	ISFJ
ENFJ	ENFP
INTP	ESTP
ENFP	ENFJ
ISTP	ISFP
INTP	ISFJ
ISTP	ISFP
ISTJ	ESFP
ENFJ	ESFJ
ESTJ	ISTJ
ISTJ	ISFJ
INTP	INFP
ISTJ	ISFJ
ISTJ	ISFP
ENTP	ENFP
INFP	ISFJ
ISFJ	INFP
ENTJ	ENTP
ESFJ	ENFJ
INTJ	ISFJ
ISFJ	INFJ
INTP	INFP
ISFJ	INFJ
INTJ	ISTJ
ESTJ	ESFJ
INTJ	ISFP
INFP	INTP
ENFP	ESFP
ISTJ	ISFJ
ESTJ	ESFJ
INTJ	ENTJ

Numbers of Preferences that Changed when Considering Initial and Claimed Types

Initial	Claimed	**No.**
E	E	**10**
I	I	**18**
E	I	**1**
I	E	**4**

Initial	Claimed	No.
S	S	12
N	N	8
S	N	4
N	S	9

Initial	Claimed	No.
T	T	5
F	F	9
T	F	18
F	T	1

Initial	Claimed	No.
J	J	15
P	P	9
J	P	6
P	J	3

Appendix 3

DESCRIPTIONS OF PSYCHOLOGICAL TYPE

ESTJ - Extraverted thinking with sensing as auxiliary
Those claiming the ESTJ type tend to be most interested in realities perceived by their five senses. This makes them practical, realistic, factually-minded, and concerned with the here and now. They solve problems by applying and adapting past experience, and prefer work where they can achieve immediate, visible and tangible results. They enjoy administration and getting things organised and done.

ENTJ - Extraverted thinking with intuition as auxiliary
Those claiming the ENTJ type tend to be mainly interested in seeing the possibilities beyond what is present or obvious or known. Intuition heightens their intellectual interest, curiosity, insight, vision and concern for long range consequences. They are seldom content in jobs that make no demand on intuition. They need problems to solve and are expert at finding new solutions. They are interested in the broad picture rather than the details.

ISTP - Introverted thinking with sensing as auxiliary
Those claiming the ISTP type tend to see the realities, and have a great capacity for facts and details. With nontechnical interests, these people can organise data and bring meaning out of unorganised facts, and are believers in economy of effort. They are likely to be patient, accurate, good with their hands, fond of sports and outdoors, and have a gift of fun.

INTP - Introverted thinking with intuition as auxiliary
Those claiming the INTP type tend to see the possibilities. They value the facts in relation to theory and are apt to have insight, ingenuity, quick understanding, intellectual curiosity, and a range of ideas on problem solving. They are more interested in reaching solutions than in putting them into practice, which others can do as well. They need to check the validity of their intuitive projects against a background of reality, otherwise they may pursue impossibilities.

ESFJ - Extraverted feeling with sensing as auxiliary
Those claiming the ESFJ type tend to be practical, realistic, matter of fact, and concerned with the here and now, while tending to be compassionate, and aware of the physical surroundings. They appreciate direct experience and like to base plans and decisions upon known facts. These people enjoy variety, but adapt well to routine.

ENFJ - Extraverted feeling with intuition as auxiliary
Those claiming the ENFJ type tend to mainly interested in seeing the possibilities beyond what is present or obvious or known. Intuition heightens their understanding, long range vision, insight, curiosity about new ideas, love of books and tolerance for theory. They are likely to have a gift of expression, but use this in oratory rather than in writing.

ISFP - Introverted feeling with sensing as auxiliary
Those claiming the ISFP type tend to see the reality of the situation, and are adept at meeting the needs of the moment. They take a personal approach to life, judging everything by their inner ideals and personal values. They see the needs of the moment and try to meet them, working particularly hard at jobs they believe in. It is important for these people to find practical ways to express their ideals.

INFP - Introverted feeling with intuition as auxiliary
Those claiming the INFP type tend to see the possibilities. These people have a great deal of warmth, and judge everything by their inner ideals, valuing people who take the time to understand them. They are perfectionists and want their work to contribute to something. They tend to have insight and are fond of books and language, with talent they may excel at literature, art, science or psychology.

ESTP - Extraverted sensing with thinking as auxiliary

Those claiming the ESTP type tend to be friendly adaptable realists, who focus on the current situation and are often gifted problem solvers. They like to make decisions and as they use their thinking function are very aware of the logical consequences of an act or decision. These people can crack down when the situation calls for toughness. They are strong in the art of living, and get a lot of fun out of life, which makes them good company.

ESFP - Extraverted sensing with feeling as auxiliary

Those claiming the ESFP type tend to be friendly adaptable realists who make decisions by using the personal value of feeling rather than the logical analysis of thinking. They are usually excellent problem solvers able to see ways of using current circumstances or rules to find solutions. However they may be too easy in matters of discipline. ESFP people enjoy life, are good company, but prefer to use only theories tested by experience.

ISTJ - Introverted sensing with thinking as auxiliary

Those claiming the ISTJ type tend to extremely dependable and have a complete, realistic respect for the facts. When they see anything needing doing, they accept responsibility, often beyond the call of duty. Their perseverance tends to stabilise everything with which they are connected, and they have a talent for organisation. They may expect everyone to be as logical and analytical as they are.

ISFJ - Introverted sensing with feeling as auxiliary

Those claiming the ISFJ type tend to be extremely responsible, sympathetic and tactful and often supportive of others in need of support. They are realistic, respect the facts and like everything clearly stated. They are hard to distract and do not quit unless experience convinces them they are wrong. They often have a delightfully individual sense of humour.

ENTP - Extraverted intuition with thinking

Those claiming the ENTP type tend to be independent, analytical innovators who see possibilities and have a lot of energy for carrying them out. Their wide interests may make it difficult for them to focus or perhaps finish and they may be objective in approach to projects and people. They enjoy challenges and are perceptive about other people, but are not likely to stay in any occupation which does not provide variety.

ENFP - Extraverted intuition with feeling as auxiliary
Those claiming the ENFP type tend to be enthusiastic innovators, who see new possibilities and have a lot of impulsive energy. They are insightful and perceptive about others. Because of their wide ranging enthusiasm, they hate routine or what they see as unnecessary detail and may need to learn to finish projects. They may be inspiring teachers or anything else which really interests them.

INTJ - Introverted intuition with thinking as auxiliary
Those claiming the INTJ type tend to be the most independent of all the types and may be quite stubborn. These people want to see their inspirations worked out in practice and accepted by others. They have determination, perseverance and may drive others almost as hard as they drive themselves. They have a single minded concentration on goals and may see the end so clearly that they may fail to see conflicting possibilities, and should seek the opinions of others.

INFJ - Introverted intuition with feeling as auxiliary
Those claiming the INFJ type tend to be innovative, but are more apt to win co-operation than to demand it. They are independent, but value fellowship and work to persuade others to co-operate. They may have a single minded determination to reach a goal, and trust their insights regardless of established authority or popularly accepted beliefs. They are excellent at problem solving.