

Chapter 3

THE RESEARCH DESIGN: BROAD METHODOLOGIES AND STAGE 1 SURVEY

Introduction

The broad research question was:

What are the factors associated with excellence in special education teaching?

The subquestions concerning the parts played by the various factors were:

- (i) Is postgraduate special education teacher training associated with excellence?
- (ii) Is mainstream teaching experience prior to special education training associated with excellence?
- (iii) Is total teaching experience prior to special education training associated with excellence?
- (iv) Is total teaching experience in special education associated with excellence?
- (v) Are special education in-service courses associated with excellence in special education teaching?
- (vi) Is special education mentoring associated with excellence in special education teaching?
- (vii) Is belonging to a special education association or group associated with excellence in special education teaching?
- (viii) Is professional reading associated with excellence in special education teaching?

- (ix) Is age associated with excellence in special education teaching?
- (x) Are there other factors associated with excellence in special education teaching?

In order to answer these questions it was necessary to collect and analyse data which would:

- rank the professional competence of individual special education teachers according to self and supervisors' appraisals;
and then to
- examine the factors associated with the professional development of these teachers in order to determine the nature and extent of this association.

The study also provided the opportunity to enrich the findings by taking advantage of the necessary involvement of a second group of teachers, that is, those who were in the promotional positions of being supervisors to the above teachers. Promotion in the NSW DSE is granted on the basis of professional competence. It was considered that an examination of the factors associated with the development of this group of professionals would provide further insight into the research question.

The study was undertaken in two distinct stages, each stage having its own methodology.

Stage 1 : quantitative research using two survey questionnaires

Stage 2 : qualitative research using an interview approach

The stages occurred in sequence, that is, the data from Stage 1 were gathered prior to the data gathering activity of Stage 2. The participants in this latter stage were chosen on the basis of information given in Stage 1.

This chapter will include a discussion of the theoretical bases for the two broad methodologies, the quantitative survey methodology and the qualitative case study methodology. This will be followed by a detailed description of the application of the Stage 1 methodology.

The broad methodologies

Two distinct research methodologies were chosen for the study. They were the survey and the case study. The former is tied to the quantitative research paradigm whilst the latter methodology belongs to the qualitative research paradigm. They provided two differing perspectives but in so doing had the potential to contribute to a third integrated and more holistic perspective. Thus, when the findings of these two approaches were integrated, they together contributed, although in markedly different ways, to the value, depth and validity of this study. This multimethodological approach of looking at the same situation in two or more different ways, that is, methodological triangulation, is the most common of the four types of triangulation described initially by Denzin (1978). It was chosen in order to overcome the risk of "method-boundedness" (Cohen and Manion, 1994, p.234) resulting from the use of a single methodology. Use of a single methodology can limit the value of a study with its view from one perspective only. This can then result in a biased and less holistic conclusion.

Triangulation is "largely a vehicle for cross validation when two or more distinct methods are found to be congruent and yield comparable results" (Jick, 1979, p.602). It ensures that if the results are confirmatory they are not due to a particular trait of a methodology but are due to a characteristic of the phenomena being investigated (Lin, 1976). Burns (1994, p.274) points out that should the results be at variance they are no less significant for consideration if this variance itself provides further insights. The researcher is, of course, obliged to attempt to reconcile the differences. "In fact divergence can often turn out to be an opportunity for enriching the explanation" (Jick, 1979, p.607).

The two methodologies are in contrast. One required written responses from a comparatively large-scale survey of teachers, the other involved workplace or *naturalistic* (Stair back and Stainback, 1984; Lunsteen, 1987)

observation and extended unstructured interviews with a small number of selected teachers. This contrast meant that, should the findings of one confirm those of the other, these findings could be accepted with confidence. At the same time the combination of the two approaches would have served to enrich and deepen understanding of the research topic.

The positivist paradigm of research with its quantitative analysis and the phenomenological interpretive approach with its qualitative analysis have emerged from two differing philosophical perspectives. The former reflects the view that research about the behaviour of human beings must, in order to demonstrate objectivity and maintain validity, be empirically based and verifiable. There is a belief amongst some of its proponents that only quantitative data, using large scale sampling and statistical analysis, are valid and of high quality (Guba and Lincoln, 1994). Researchers holding this perspective formulate hypotheses and then set out to test them. Their purpose is to discover universal patterns based on an "assumption of uniformity of nature" (Erickson, 1986, p.129). They seek to answer *what* type questions and to explain associations. In assuming a "stable reality" the quantitative researcher is in contrast to the qualitative researcher who "assumes a dynamic reality" (Reichardt and Cook, 1979, p.10).

Researchers, who prefer qualitative methodologies, explore the nature of phenomena and set out to develop insights using a small number of cases. "One does not begin with a theory, then prove it. Rather, one begins with an area of study and what is relevant to that area is allowed to emerge." (Strauss and Corbin, 1991, p.23).

In the one case, quantitative analysis, there is an explicit statement of theory, whilst, in the other case, qualitative analysis, there is usually an emergent statement of theory. Fielding and Fielding (1986, p.21) have called working within the framework of those being studied, "emic analysis". They contrast it with quantitative "etic analysis" which describes the use of an imposed, preconceived conceptual framework. It is acknowledged here that there is some debate about the extent to which the qualitative researcher can be free from all preconceptions. Some broad framework is necessary in order to commence questioning, even though this questioning may be very unstructured and open. The purpose of the

various types of qualitative analyses is to see what is important and unique about a particular case within its own particular setting. The phenomenological approach requires a striving for insights into the individual's complex of attitudes, experiences and beliefs. Commonalities between individuals are more likely to be suggested than generalities across groups (Stake, 1978), this being the province of the quantitative researcher. If statistical analysis is used, its role is regarded as subordinate to qualitative analysis (Atkinson and Hammersley, 1994). "Terms such as 'credibility', 'transferability', 'dependability' and 'confirmability' replace the usual positivist criteria of 'internal' and 'external validity', 'reliability' and 'objectivity'." (Denzin and Lincoln, 1994, p.14).

Qualitative research is regarded by many, but not all, positivists as being dependent on the idiosyncratic interpretation of the researcher and thus not verifiable, not valid, not replicable, and hence of little value. In contrast quantitative research is regarded by some subjectivists as displaying a limited view of humankind and that the research findings have the potential to be trivial and not depict the whole picture. The former is more concerned with the individual's interpretation of his/her world and the understanding of this whilst the latter is concerned with studying groups and their overt behaviour (Wilcox, 1982). Cohen and Manion (1994) describe this as the view that behaviour is rule-governed and therefore open to scientific investigation, this contrasting with attempts to understand the subjective world of the individual.

The above discussion represents two extreme viewpoints which would appear to be irreconcilable. In practice today there is growing appreciation of the advantages of each. Social researchers are seeing value in the use of a bi- or multimodal approach to research. These approaches should be seen as complementary rather than rival viewpoints (Jick, 1979; Cook and Reichardt, 1979; Linn, 1986). This writer accepts this position and thus chose to use a multi-methodological approach.

In recognising that both methodologies have value it is also necessary to be sensitive to the potential limitations of each. With care their strengths can be exploited and their weaknesses neutralised (Jick, 1979, p.604). Quantitative research allows generalisation of results but these results may lack meaning. Qualitative research has the potential to increase

understanding of the human experience but this understanding is very much dependent on the researcher's own experiences and powers of observation and interpretation.

Neither methodology is free from subjectivity. This does not necessarily have a detrimental effect on the quality of the research. In fact, the proponents of qualitative research claim that this is one of its strengths. All researchers bring to the research task their own biases, interests and preconceptions (Scriven, 1972; Patton, 1982). The quantitative researcher does this in his/her development or selection of the research instruments whilst the qualitative researcher does this in terms of his/her observation and interpretation activities. Both quantitative and qualitative researchers must approach their research task with an open and critical mind alert to their own influences and striving for researcher neutrality.

The question of validity has occupied researchers of both quantitative and qualitative persuasions. It has been a major issue in the criticism of qualitative research. Maxwell (1992, p.281) believes that "understanding is a more fundamental concept for qualitative research than validity". The term "authenticity" used by Guba and Lincoln (1989), but not defined, has a similar and perhaps additional flavour. It implies that the findings *ring true* and that there is a general congruence between cases being studied. There seems to be some overlap with the Denzin and Lincoln concepts of "dependability" and "confirmability" (Denzin and Lincoln, 1994, p.14) .

In special education, traditionally an area where quantitative research has dominated, there has recently been an increasing interest in the value of qualitative research. Stainback and Stainback (1984, p.400) concede the valuable contribution that quantitative research has made in special education but now feel that qualitative research in the naturalistic setting of the classroom has much to offer. In their large-scale survey of special education research, Calder, Justen and Smith, (1990, p.174) concluded that qualitative research "still remains an idea whose time has not come." Miller (1990, p.233), however, believes that qualitative research is already "an emerging methodology in special education." The bringing together of quantitative and qualitative methodologies so that each contributes to the understanding of a key question is still new in special education research. This study is therefore breaking comparatively new ground in its methodology as well as its topic.

Application of the broad methodologies

The two research methodologies described above were chosen for this study in order to avoid method-boundedness, to ensure a more holistic perspective and to confirm (or otherwise) the findings. "What is important is to choose at least one method which is specifically suited to exploring the structural aspects of the problem and at least one which can capture the essential elements of its meaning to those involved" (Fielding and Fielding, 1986, p.34). This research study does this in its choice of the quantitative survey methodology and the qualitative case study methodology. The former is concerned with "the structural aspects of the problem" and the latter with the "elements of its meanings."

The differences between the two methodologies as they are used in this study are set out in the following table. The drawing up of this table has been influenced by Cohen and Manion (1994, p.39) and Burns (1994, p.242).

Table 3.1

Comparison of the survey and case study methodologies used in this study

Survey study	Case study
analysis largely quantitative not personalised written responses large sample unselected participants information not in depth cannot probe data association relationships half an hour for completion responses limited statistical analysis analysis allows comparisons based on theory universally valid allows comparisons replicable validity sought reliability	analysis largely qualitative personalised face-to-face with researcher small sample selected participants dense information can probe data emphasis on meaning two days of data collection responses open-ended emerging patterns comparisons of limited value emerging theory not universally valid allows commonalities not replicable authenticity/understanding confirmability

It should be stressed that the two methodologies address the same broad research question "What are the factors associated with excellence in special education teaching?" They are concerned with the same phenomena, that is, associations with excellence in special education teaching. The Stage 1 survey study, in order to answer the broad question, sought to find answers to subquestions (i) to (ix) (listed above) on the assumption that these covered the whole field of possible associations. The open-ended subquestion (x) was included as a cautionary measure in case all factors had not been covered. It was particularly relevant to Stage 2. The Stage 2 case study did not make any identifications but allowed the contributors to the development of professional excellence to emerge. It should be noted that the terms *factors* has been used in relation to Stage 1 but *contributors* has been used in relation to Stage 2, this reflecting more accurately the perspective taken by the five participants. The survey study relied on statistical analysis and so was constrained by the relevant rules of correlational analysis and

interpretation of findings. It was realised that care had to be taken to interpret the findings as associative and not causal.

Stage 1: Development of the instruments

Introduction

This stage used the most common of the descriptive methods in educational research, that is, the survey (Cohen and Manion, 1994, p.83). For several reasons a mail survey was chosen in preference to a phone survey. This form of data collection was economical in terms of both time and money. It allowed a large number of potential participants to be approached and these were able to be drawn from anywhere within NSW. Mail surveys can assure respondents of anonymity which phone surveys, in general, cannot.

However, the writer was aware of the potential disadvantages as well as the advantages of this type of survey. Mail surveys can be seen by the potential respondents as impersonal. This may lead some to regard them as unimportant and not worthy of response. Such may well be the case with surveys sent to teachers, who have many pressing demands on their time and energy. There is, therefore, a challenge to the researcher to capture the imagination and attention of the potential respondent and also to convince him/her of the importance of the research study.

An additional potential hazard of mail surveys is that they are necessarily standardised, that is, the questions treat all those being surveyed in the same way. In asking all potential informants the same questions there is an assumption that they all share the same background of understandings of concepts and terminology. Special education has a large number of concepts and acronyms that are peculiar to the field. Whilst care could be taken to employ only those that are in common usage, it could not be assumed that all would be understood by all those being surveyed.

The design of an effective mail questionnaire requires much time and thought. It must elicit the information required in order to best answer the research questions, it must ensure that coding and therefore analysis of the responses could proceed with ease and it must achieve an acceptable response rate. In this study a large amount of information was

needed. The information was required from people whose professional lives were known by the writer to be very demanding in both time and commitment. Thus there had to be a fine balance between the length of each questionnaire and the amount of time that could reasonably be asked for its completion.

A standardised procedure inevitably fails to elicit the richness of the individual's experiences and understandings. Because of the need to analyse a large amount of data most questions had to be worded so that there was a limited number of responses and responses had to lend themselves to easy coding. Thus most questions were closed as opposed to open-ended. It was recognised that this rigidity of questioning style would inevitably have a limiting and possibly dampening effect on responses.

All the above potential hazards made it imperative that the researcher sought to find ways to personalise the questionnaire as much as possible. It was necessary to endeavour to ensure that questions had similar meanings for all those being surveyed and that there was some opportunity for them to express their individuality and unique experiences. If this had not happened the respondents may have felt that the questionnaires were "impersonal, mechanical, and demeaning and the response categories limited, artificial, and constraining." (Somner and Somner, 1980, p.76)

Prerequisites to instrumentation development

Cohen and Manion (1994, p.85) state that the "Three prerequisites to the design of any survey are the specification of the exact purpose of the enquiry; the population on which it is to focus; and the resources that are available".

These three areas will now be discussed.

The purpose was to gather data which, when analysed, would provide answers to the broad research question and the subquestions. This meant that the data needed to include:

- demographic information from both the supervisors and the teachers;
- personal views regarding the weighting of given factors associated with their own professional development and the professional development of teachers generally;
- self assessment and supervisor assessment of the teachers' professional competence.

These points are discussed in detail below.

The survey population

It was decided to survey as large a population of special educators in State schools in NSW as possible making no restrictions except as dictated by the type of information needed to answer the research question. The type of information needed limited the population in two ways.

Firstly, some of the information needed concerned teacher self appraisal and supervisor appraisal of that teacher. In order for the supervisor's appraisal to be an informed one it was considered that the supervisor should herself/himself be a special educator. In NSW special education teachers are supervised by either a senior mainstream teacher or a senior special educator. The former occurs if there are only one or two special educators in the school. This mainstream teacher may well know very little about special education. He/she would therefore not be in a position to appraise with accuracy and understanding the professional competence of the special education teacher. If there are three or more special educators in the school then the supervision of these teachers is by someone in a senior special education role. This person would have the knowledge and understanding necessary to make an informed appraisal of any of the teachers under his/her supervision. Thus it was considered essential to survey only those schools in NSW with special education teachers in supervisory roles.

The second restriction concerning the choice of population related to the amount of time it was considered reasonable to ask the supervisor to spend on questionnaire completion. In NSW each supervisor has between

two and four teachers to supervise. If there are more than this number within the school they are allocated additional supervisors. The Supervisor Questionnaire (which parallels that sent to the teachers) needed to be lengthy because its purpose was to elicit extensive demographic information and, as well, provide appraisal information about the teachers the supervisors were supervising together with their own perceptions about contributors to professional development. It was expected that the questionnaire would each take up to 30 minutes to complete. The trial confirmed this as an average time.

As supervisors have many demands on their time, it was considered counter-productive to ask a supervisor to complete more than one questionnaire. This meant a questionnaire about only one of their teachers. A supervisor faced with two or more questionnaires to complete may well have decided not to participate at all. Thus each supervisor was asked to appraise only one of his/her teachers, that is, the teacher who was completing the Teacher Questionnaire.

The above meant that **all** special education supervisors within the NSW state education system were, through their school principals, sent a Supervisor Questionnaire. Thus the entire population was surveyed. In August 1994, when the survey was being prepared, there were 428 such supervisors. These were in a variety of settings: mainstream primary, secondary and central schools; special schools; district special education support centres. The above also meant that 428 teachers were surveyed, that is, one teacher under the supervision of each supervisor. A total of 856 educators were, through their principals, invited to participate. There is no way of knowing just how many supervisors and then how many teachers actually received their questionnaires but it is known, from comments and messages the writer received, that not all did so. Addresses of all the NSW DSE schools with special education supervisors were provided by the DSE. Names of the school principals were not provided and so correspondence was addressed to "The Principal".

Resources available

This research was conducted without financial or other significant assistance. A comparatively small amount of survey analysis assistance

was used and this is described below. All costs were born by the writer. Limited finance did not restrict the design of the study which would have proceeded substantially as it did with assistance.

The above three prerequisites (Cohen and Manion, 1994, p.85) having been discussed, attention will now be given to the design of the instruments.

Design of the instruments

It is necessary to explain two components in the design before proceeding with the details of the instrument development. These both relate to the process of obtaining permission to conduct research in NSW state schools. They concern the means (NSW DSE draft discussion statement of special education teacher competencies) and the form of the appraisal (self appraisal and supervisor appraisal) of the teachers as required in Part B of the surveys.

Permission to conduct this research study was sought, as required, from both the University of New England and the NSW DSE. The requirements of the latter are very stringent concerning the conduct of research in DSE schools. Permission in principle was granted early (June 1994) in the design process and then final permission was granted when all plans for the instrumentation and procedures had been finalised. Final permission was delayed until late October 1994.

The writer was informed that this delay was due to the proposed use of the appraisal instrument, appraisal being a sensitive issue in NSW schools. The situation was exacerbated by the fact that it was planned to use a DSE document, that is, the draft discussion paper "Critical attributes for beginning special education teachers" (1994), for this purpose. As explained in the previous chapter, competency statements are usually written in the context of *beginning teachers* this being a way of expressing essential competencies. Permission was eventually granted at a very senior level. A condition of use was that the document would be used for no other purpose than this research.

There are many statements of essential teacher competencies in special education. Several of these have been discussed, and their similarities

noted in Chapter 2, Review of the Literature. The NSW DSE document was regarded as the most suitable to use for this NSW research because of its direct application to this situation. It involved several meetings of *experts* who produced a draft document. This stage was then followed by a validation stage in which the draft document was examined by teachers in the field. This method of validation has been used in the development of several overseas special educator competency statements, particularly statements developed in the United States (Zane et al., 1982; Swan and Sirvis, 1992; Blanton, 1992). Further validation through statistical analysis such as factor analysis, for example, as used by Blanton (1992), is unusual. This procedure was not used in the development of the NSW DSE statement, the final form of which was produced following field validation only.

The format and content of this document has also been discussed in the Review of the Literature. It follows the then usual practice in Australia (Carmichael, 1992) of listing major areas of workplace competencies as *units* and subcategories of these as *elements*. Each element has two or more descriptors written as *performance indicators*. The 22 competencies in the DSE document are, in fact, elements and these are assigned to four units.

The use of a statement of competencies as an appraisal instrument is a vexed one with strong arguments made both in support of and against such use. Despite the politically sensitive nature of professional appraisal, assessment and evaluation, the National Working Party on Teacher Competency Standards has published the "National Competency Framework for Beginning Teaching" in which it suggests the use of the Framework for assessment purposes (NPQTL, 1996a, p.22). It should be noted that participation in this research study, and hence the appraisal aspect, was voluntary.

Various forms of teacher appraisal have been discussed in Chapter 2, Review of the Literature. As noted there, peer appraisal combined with self appraisal appears to be the system most acceptable to Australian school educators. It was considered important that the *peer* in this study was someone who had some depth of knowledge of special education and of the teacher and so could appraise with understanding. Another special educator (in a non-promotional position) may not have had the necessary

knowledge and understanding. Thus the *peer* was required to be the teacher's immediate special educator supervisor.

The details of instrument development are now discussed.

Two instruments were developed. They were both mail survey questionnaires. One was the Teacher Questionnaire and the other was the Supervisor Questionnaire. Each had three parts: Parts A, B, and C. Parts A and C were the same in the two questionnaires. Part B differed in that the wording in the Teacher Questionnaire required the teacher to self-appraise and comment on his/her professional development whilst in the Supervisor Questionnaire the wording required the supervisor to appraise that teacher and comment on the teacher's professional development. The only other difference between the two types of questionnaires was that there was included at the end of the Teacher Questionnaire a Consent to Visit form which the teacher was invited to complete if he/she agreed to the writer visiting him/her for Stage 2 of the research.

The questionnaires were sent to the school principal. Within the envelope there was:

- (i) a single page covering letter addressed to the principal;
- (ii) a *bundle* for each supervisor in the school. This contained
 - a single page statement of instructions,
 - a Supervisor Questionnaire and reply-paid envelope,
 - a Teacher Questionnaire and reply-paid envelope.

In most situations there was only one supervisor in the school and so only one bundle was sent. Some schools, particularly special schools, had more than one supervisor and there was a bundle provided for each.

For ease of understanding, the following table sets out, in summary form, the sections of each of the two questionnaires and clarifies their similarities and differences. The questionnaires are then explained in more detail.

Table 3.2

Summary of contents of the questionnaires

	Teacher Questionnaire	Supervisor Questionnaire
Front cover	label - "Teacher Questionnaire" name and address of the sender (other inclusions explained below *)	label - "Supervisor Questionnaire" name and address of the sender (other inclusions explained below *)
Part A 33 questions	request for information about self in terms of - <ul style="list-style-type: none"> • current class • setting • past teaching • future plans • reason for teaching • training • qualifications • being mentored • professional activities • professional development • age • gender 	identical to Teacher Questionnaire
Part B 25 questions	questions requiring professional self appraisal	questions requiring appraisal of the teacher
Part C 1 question	open-ended question on professional contributors	identical to Teacher Questionnaire
Consent to Visit form	request for permission to visit	no form
Back cover	<ul style="list-style-type: none"> • school code • posting instructions • request if wish research findings 	as Teacher Questionnaire

The details of the format of the Teacher Questionnaire are listed below. Where the Supervisor Questionnaire is different from the Teacher Questionnaire this is explained. There is no explanation if there is no difference.

Front cover A copy of the front cover in reduced form is provided below. The cover included the name and address of the writer. The questionnaire was labelled either:
Teacher Questionnaire

or
Supervisor Questionnaire.

* It also included an eye-catching and novel caption. A teabag and a coffee bag were stapled side-by-side to the top of the cover, above the drawing of the cup and saucer.

Have a Cuppa on me !



Teacher Questionnaire

Please take time to relax, make a cuppa and fill
in this questionnaire for me.

Note: The phrase "make a cuppa" is a common Australian idiom.

Part A

This section of the questionnaire was devoted to obtaining factual information in response to closed questions. It consisted of 33 questions eliciting information about current and previous teaching, future plans, reason for entering special education, any training additional to mainstream training, teaching experience prior to postgraduate training, DSE accreditation in special education, mentoring, association membership, journal reading, attendance at inservice courses, age and gender. According to their highest form of training completed, respondents were also asked to list in priority order the given list of contributors to their development as teachers. All questions required the respondents to tick or number a box. Some questions also enabled the participants to provide a response other than those listed. A brief space was provided for an explanation of this.

Part B

Most of this section was devoted to questions which required teachers to appraise their own professional performance using the DSE statement of 22 competencies. There was one question for each competency. Teachers were asked to appraise their performance using a five-point Likert scale, 1 being *L (low)* and 5 being *H (high)*. These questions were followed by a question which asked teachers to make an overall self appraisal, again using a five-point Likert scale. Two open-ended questions were then asked concerning what the teacher thought had or could assist in his/her professional development.

The supervisor's questions were worded slightly differently from the teacher's questions for they sought to obtain information from the supervisor about his/her appraisal about the particular teacher. Two examples are given to clarify this difference. In the Question 1 example, the competency element only is given as the performance indicators under each element are the same in both types of questionnaires.

Teachers' Question 1

"How well do you: demonstrate an understanding of special needs, service provision and the implications for classroom teaching?"

Supervisors' Question 1

"How well does the teacher: demonstrate an understanding of special needs, service provision and the implications for classroom teaching?"

Teachers' Question 23

"How well do you perform overall as a special educator?"

Supervisors' Question 23

"How well does the teacher perform overall as a special educator?"

Part C

This section contained one question only. The open-ended question asked participants what they thought

were the factors which best contributed to excellence in special education teaching. Because the focus of the questionnaire up to this point had been very largely on training and teaching experience, participants were asked not to feel restricted to these. A space of six ruled lines was allowed for responses, this being considered adequate to encourage a thoughtful, but not over-long, response. Some respondents wrote more.

**Consent to
Visit Form**

Teachers were asked to consider participating in Stage 2 of this research study. A brief explanation was given of what this would entail. Those teachers who agreed to participate and whose supervisors and principals agreed were asked to provide their names (up to this point the questionnaire had been anonymous), school addresses and phone numbers.

Finally these teachers were asked to sign the form.

There was no form in the Supervisor Questionnaire.

Back cover

This included a box to be ticked if the teachers wished to receive a summary of the research findings. It also gave instructions for returning the completed questionnaire in the reply-paid envelope. Respondents were thanked for their help. At the bottom of the cover the writer, prior to posting, filled in a code number which indicated the school to which the questionnaire was to be sent. Where there was more than one supervisor in the school the letter "a" (or "b" or "c") was added so that returned questionnaires could be paired, that is, the Supervisor Questionnaire could be paired with the correct Teacher Questionnaire. The coding also allowed the writer to check the returned questionnaires and send a reminder notice if the particular questionnaire had not been returned.

For further clarification the meaning of code *127 S b* is given:

- *127* designates the school;

- *S* designates that it is a Supervisor Questionnaire;
- *b* designates that it is the second supervisor in that school.

This code when returned was paired with:

127 *T b, T* designating that it was a Teacher Questionnaire.

See Appendix 1, Teacher Questionnaire.

It should be noted at this point that whilst it was hoped that all, or a very large number of responses, could be paired, it was accepted that this was unlikely to occur. There was no requirement that each supervisor and teacher know if his/her partner had completed and returned the questionnaire. Each teacher and supervisor was provided with an envelope in which to return his/her questionnaire. This meant that the partners did not have to see each other's appraisals unless they wished this. If such knowledge had been required through, for example, the use of the same return envelope, the return rate may have been affected. It could have been an additional reminder for the teachers that their supervisors were appraising their teaching competence. This may have resulted in some uneasiness. Unpaired questionnaires were still a source of information in relation to the main research question and the subquestions. It did mean, however, that because of the criteria (discussed below) for selection of the case study participants the teachers, who were not also appraised by their supervisors, could not be selected for Stage 2.

Certain design principles must be considered when developing mail survey questionnaires. Dillman in his description of his total design method (TDM) for mail and telephone surveys, discusses "how each aspect of the questionnaire, from the most obvious to the least obvious, may affect the recipient's decision to respond" (1978, p.120). The design of the two questionnaires used in this study drew heavily on the methods and strategies of the TDM. These related to the establishment of a particular relationship between the writer and the potential respondents, the wording and formatting of the questions, the arrangements for the return of the questionnaires and the system for reminding those who did not respond to the first request. These four features will be discussed in the context of their application to the two questionnaires.

Dillman (1978, p.16) states that an essential characteristic of an effective questionnaire is that there needs to be quickly established in the questionnaire recipients a sense of trust. This means trust that the research is authentic and worthy, the researcher is responsible and to be believed in terms of promised confidentiality and anonymity, and finally that the recipients' contribution was needed and would be valued.

It was a requirement of the NSW DSE that all correspondence, that is, the covering letter and explanatory statement, the questionnaires and any follow-up letters, be addressed to the school principal. Thus in this study the above-mentioned trust needed to be first established in the school principal. The major means of establishing this sense of trust was through the initial covering letter to the school principal. It was requested that this letter, if the principal approved of his/her staff's participation, be passed on to the supervisor and then on to the teacher. The letter, on University of New England (UNE) letterhead, explained that the research study had both DSE and UNE approval. It explained the importance of the study, that it was state-wide and that confidentiality and anonymity would be respected.

It was considered possible that some questionnaire recipients might, on the basis of the questionnaire's size (six double-sided A4 pages folded and stapled in half to make a booklet), decide that the task of completing it would be too time-consuming. A novel approach was taken in an endeavour to break down any sense that the activity was impersonal and mechanical (Somner and Somner, 1980) and to inject a sense of collegiality and even of fun into the activity. This was the tea and coffee bag approach already described. It should be pointed out that this novelty was trialled first and comments sought from a number of others as to its suitability. All smiled, if not actually chuckled, and predicted that it would help to lighten any feelings of onerousness on the part of the recipients of the questionnaires. This in fact proved to be the case. Many of the returned questionnaires included a positive comment and/or thanks. There were no negative comments. Many additional aspects had to be considered. Dillman's TIM section (1978, p.79-118) on the wording and formatting of mail survey questionnaires was used as a checklist for ensuring that all the necessary design aspects had been considered. These aspects included identifying the specific information being sought, the

ordering of questions, deciding about question structure and types of questions, clarity of wording, recipients' understanding of the wording, bias of wording, mutual exclusiveness of questions, accuracy of wording, formatting for ease of responding to questions and ease of the writer's coding of the responses and the procedure for the return of the questionnaires. This list is not exhaustive for the TDM is diligent in its coverage.

Considerable thought was given to the wording and formatting of the questionnaires. Particular attention was given to ensuring that the wording and especially the NSW DSE abbreviations that were used, were those known to teachers and supervisors. The abbreviations that were used in the questionnaires were the same as those used in the teachers' appointment letters from the DSE. Care also was taken to define types of training for it is known from the writer's previous experience that teachers do not necessarily know if their training is regarded by the DSE as eligibility for full recognition as a qualified special education teacher.

The questionnaires had to appear to be, and actually be, inviting, interesting and easy to understand, complete and return. Thus consideration also had to be given to the size of the type, the size, quality and colour of the paper used, the fold and stapling of the paper and the size of the envelopes for both sending and returning the questionnaires. Cost had to be considered in the selection of the quality and colour of the paper used but the quality of the questionnaires did not suffer greatly because of these constraints. Reply-paid envelopes were provided for the return of the questionnaires.

The questionnaires were developed over a period of four months (May to August, 1994). Considerable thought had been given to their design during the year prior to this. Dillman's TDM (1978) was referred to throughout the design stage. Two examples of the impact of this are explained in order to demonstrate the care that was taken at every step of the activity.

The covering letter to the school principal used one page only and had the following TDM components:

- official letterhead;

- date mailed;
- what the study was about; its social usefulness;
- why the recipient was important;
- promise of confidentiality; explanation of identification number;
- usefulness of the study;
- what to do if questions arose;
- appreciation;
- hand-written signature;
- title of the writer.

(condensed from Dillman, 1978, p.169)

Because of both the UNE and the NSW DSE requirements the covering letter also stated that approval to conduct the research had been granted.

The question of the statement of a return date for the questionnaires was considered. After discussing this with teachers in the field, it was decided to ask only that they be returned "as soon as possible". This was done in both the explanation statement and on the first inside page of the questionnaires.

At several stages during the questionnaire design period the opinions of professional colleagues were sought. These included special education lecturers with a school teaching background. Appraisal comments resulted in some modifications. When the instruments were seen to be approaching their final version they were trialed using local professionals in as close a situation to their intended use as was possible. Trial participants included 16 teachers, four supervisors and two senior DSE administrators. Participants were asked to complete the questionnaires and as well comment on the wording, formatting, length and time required for completion. They were also asked to comment on the use of the cover page tea and coffee bags. Overall comments were very favourable but some minor changes of wording were recommended. These were implemented. The average time taken for completion was 30

minutes. Whilst the questionnaire trial did not end in a full-scale statistical analysis, a check was made that there were no obstacles to the planned analytic procedures.

Two reminders, or *jog* letters, were then prepared, these also drawing on the principles contained in the TDM (Dillman, 1978). The revised version of the questionnaires, together with the covering letter, explanation statement and reminder letters were then submitted to the NSW DSE for final approval. This was obtained. Printing of all the documents as well as the postage arrangements were then finalised.

Data gathering procedures

The obtaining of the address list and the contents and nature of the survey packages has already been described. The survey instruments, the Teacher Questionnaire and the Supervisor Questionnaire, were posted to the principals of all the schools whose addresses were provided by the NSW DSE, that is, all schools which had a special education teacher with responsibilities for the supervision of other special education teachers. In all, 428 packages were posted to 356 schools. Returns were monitored and at fortnightly intervals two reminder letters were posted. Second copies of the questionnaires were sent to non-responding schools with the second reminder letters.

Several schools phoned, as a result of the first or second reminder letters, stating that they had received no correspondence until that time. It can only be assumed that the original package and the first reminder letter had not been passed on by the school principal. Some special educators in this situation would not have received their packages until the second last week of the school year. Whilst some of these were returned in the school holidays and even early in the new school year, understandably several were not returned at all.

The following table shows the distribution and return statistics concerning the survey questionnaires.

Table 3.3

Distribution and return of questionnaires

	Teacher	Supervisor	Total
Questionnaires posted	428	428	856
Questionnaires returned	174	183	356
Questionnaires used	168	178	346*
Percentage returned	41	43	42

*Ten of the returned questionnaires were not usable. This is explained below.

Of the returned questionnaires, 126 were *pairs* (Supervisor and Teacher Questionnaires were about the same teacher) and 94 were *singles*. The return rate from the 356 schools that were sent surveys was 51.4% and from individuals who were sent surveys (but may not have received them), it was 42%. The return rates are considered to be very acceptable, especially when it is remembered that:

- there was a NSW DSE requirement that the school principal approve that the study take place in the school;
- if that happened, the supervisor was then required to approve that the study take place before passing the Teacher Questionnaire on to the teacher;
- if that happened, the teacher then needed to agree to participate, this participation involving professional self appraisal as well as supervisor appraisal.

Thus whilst it is known how many questionnaires were posted it cannot be known how many were actually received by the intended recipients.

In December 1996, there were 3372 special education teaching positions in NSW State schools (Shearer, 1997). The number of actual teachers (this includes those in supervisory positions) was not known but it was known that some positions were not filled at that time. In November/December 1994 (the survey period) there was not a central DSE data base and figures from the ten regions are not regarded as reliable (Shearer, 1997). This is further explained in Chapter 5, Data Analysis: Description of Stage 1 Participants. The total number of special educators would have been similar to the 1996 figure. Accepting that this was the case, this means that over 10% of NSW DSE special educators, 356 in all, participated in this study.

In a similar Australian survey study, commissioned by the National Board of Employment, Education and Training (NBEET) (1994), concerning teachers' professional development, the return rate was 48.4%. However there were two significant differences between that study and this present one, in terms of gaining cooperation. The NBEET study was commissioned by the major board of the Commonwealth Department of Employment, Education and Training. Such a survey would carry with it a high status, certainly when compared with that of a single, largely unknown individual. Secondly, before distributing the survey, 100 schools were invited to participate. Seventy-four agreed to do so. Only these schools were then surveyed. Of the 1850 questionnaires distributed to teachers in the 74 schools which had previously agreed to participate, 48.4 percent of these were returned.

Analytic procedures

This section is concerned with a description of the quantitative methods used in the analysis of Stage 1 data. They directly address the broad research question and the subquestions. The methods of analysis were largely chosen during the survey design stage in order to ensure compatibility between the data elicited from the completed questionnaires and their intended analysis.

Four types of data were collected. These were

- personal professional data (Part A, Questions 1 - 28, 32 - 33);
- opinions concerning the ranking of contributors to their own professional development (Part A, Questions 29 - 31);
- appraisals of professional competence (Part B, Questions 1 - 23);
- opinions regarding professional development in response to the open-ended questions (Part B, Questions 24 - 25, Part C, Question 1).

The first three of the above were examined using computer programs designed for statistical analysis. This step required the allocation of a numerical code to all responses, this being entered on a spreadsheet using the Excel software package. There was a very large amount of data to be

entered and so to ensure accuracy and efficiency the researcher was helped in this task by an assistant. The last of the above types of data was analysed manually with responses being allocated to descriptive categories.

Prior to analysis each questionnaire was read to ensure

- that it was usable;
- that there were no obvious inconsistencies.

This resulted in ten questionnaires being discarded, either because they were largely incomplete or because they appeared to have been completed by an inappropriate person, that is, someone apparently not employed as a special education teacher or supervisor. Questionnaires that had a small number of the 59 questions not answered were included in the analysis. Only very obvious instances of question misunderstanding were edited. This occurred in a very few cases where respondents stated in one question that they had had a particular type of training and then in a later section of Part A (Questions 29 - 31) chose an alternative question to answer that was not consistent with this.

The following procedures were carried out.

Analysis of frequencies

A number of frequency distributions were computed using Statview. These related to demographic data, to the data concerning the teachers' and supervisors' ranking in priority order of the contributors to their own individual professional development and to the overall self and supervisor appraisals.

Rasch analysis

This analysis related to Part B, Questions 1-22, of the Teacher Questionnaire and the Supervisor Questionnaire. Participants were requested to choose a response on a Likert scale. Likert scale data of the kind elicited by the competency questions in Part B of the survey instruments are often analysed by summing responses to each category on

the scale, and weighting those responses according to the ordinal value of the scale category (Kerlinger, 1986). For example, the frequency of responses to the questions on an attitude scale might be as follows.

Table 3.4
Likert scale example

Category of responses on Likert scale	1	2	3
Question 1	10	20	10
Question 2	20	10	10

Using this approach, Question 1 would be given a score of 80 $((10 \times 1) + (20 \times 2) + (10 \times 3))$ and Question 2 a score of 70 $((20 \times 1) + (10 \times 2) + (10 \times 3))$. However, this procedure ignores the essentially ordinal nature of the data and is a coarse grained analysis.

An alternative, and finer grained, method of analysing Likert scale data is offered by the Rasch Latent Trait Scaling Method (Masters, 1982, 1984, 1986). The Rasch process yields objective measures of information contained in Likert scale responses. It is based on a log odds model that produces a scale at an interval level of measurement. In dichotomous attitude measurement, for example, the model produces an attitude scale based on the log odds of respondents agreeing with attitude items. For a respondent with attitude x , the log odds of success (logits) with respect to an item with y difficulty are $\log x - \log y$. If attitude items are ordered along an interval scale, from the easiest with which to agree to the hardest with which to agree, and respondent attitudes are ordered on the same scale, then the greater the positive difference between $\log x$ and $\log y$, the higher the odds the respondent will agree with the item. For those items at the easiest (that is, negative) end of the scale respondents increase their likelihood of agreeing with the item with increasing attitude on the scale. Similarly, those items at the hardest (positive) end of the scale will be agreed with only by respondents with attitudes also at the positive end of the scale.

Andrich (1988) extended this simple, dichotomous form of the Rasch Model to cover partial credit processes typical of Likert scale responses. Algebraically, in the Rasch model for polychotomously scored data,

usually referred to as the partial credit model, the probability of respondent n responding in category x of item i is given by:

$$P_{nix} = \left\{ \frac{\exp \sum_{j=1}^x (\beta_n - \delta_i - \tau_j)}{1 + \sum_{j=1}^m \exp \sum_{j=1}^k (\beta_n - \delta_i - \tau_j)} \right\}$$

where β_n is the ability of respondent n ; δ_i is the overall item difficulty; $\tau_1, \tau_2, \dots, \tau_M$ is a set of parameters associated with the transition between response categories; and m is the number of response categories provided for each item.

In the present study, respondent ability was construed as the respondent's perception of his/her performance (or the supervisor's perception of the teacher's performance) on the set of 22 competencies, and item difficulty as the degree of performance on that item. It should be noted that the Rasch model assumes uni-dimensionality of the underlying construct being measured. Duncan and Stenbeck (1987) demonstrated that if this assumption is not justified the resultant estimates are difficult to interpret. In the present study, the QUEST (Australian Council of Educational Research, 1993) software implementation of the Rasch model was used to process the data. It supplies a number of statistics that provide guidance in respect of construct validity.

The test of construct validity is that the items have content and face validity (Anastasi, 1976; Cohen and Manion, 1994). The 22 NSW DSE competencies were selected by an expert panel of special educators comprising academics, system administrators including those responsible for teacher training and selection, consultants and school principals. The initial list of competencies was then field validated through a process involving special education teachers. Additionally, the item difficulties must be drawn from the same conceptual framework and be located on the same measurement scale, item and respondent estimates should be well separated on that scale, and the item responses must have a good fit to the model. The QUEST software produces an internal consistency index, which is analogous to Cronbach's alpha, as a measure of item

homogeneity. It also produces a range of item and respondent reliability fit indices that assist decision making regarding construct validity.

The item difficulty estimates provided by QUEST were used to construct hierarchies of item difficulty separately for the teachers and supervisors. These were further investigated using correlation analysis.

Correlational analysis

The Pearson Product Moment Correlation Coefficient was used to determine the relationship between the teachers' item estimates and the supervisors' item estimates. This analysis provided evidence of the perceptions of the two groups of professionals concerning the difficulties of each of the 22 competencies. Analysis was also carried out to determine the correlations between the supervisors' case estimates of the teachers and their overall appraisal of the teachers' competence.

ANOVA procedures

Respondent ability estimates, also known as case estimates, were used as dependent variables in a number of ANOVAs to uncover differences between subgroups of respondents in terms of the five factors relating to training, teaching experience and age.

A five-way ANOVA involving all of the above factors was not carried out because it would have yielded a model with 160 cells, many of which would have had no observations. Similarly, two, three, or four-way ANOVAs were not carried out because they would have yielded models with low and unequal observation counts (fewer than five observations in many cells). Testing for the existence and location of interaction effects in unbalanced models requires the use of post hoc tests or the specification of planned comparisons applied to group least square means. The former, in order to protect against escalating type 1 error rates, are conservative, likely to detect only large scale effects and, hence, are of low power. The latter require the researcher to specify in advance of data analysis a set of comparisons guided by theory and/or empirical evidence (Tabachnick and Fidell, 1989). In the present case, the literature does not provide any such guidance.

Additionally, the nature of the independent variables is such that they are neither orthogonal nor uncorrelated (Bordens and Abbott, 1991). For example, it is reasonable to speculate that the older the teachers the less likely it is that they had access to post graduate university training in special education, the more likely it is that they had mainstream teaching experience before undertaking special education training (if undertaken), and the more likely it is that they have had extensive special education experience. Given these circumstances, it was decided to restrict the investigation of group differences to a set of one way ANOVAs directly related to the research questions. A consequence of this decision is that possible interaction effects would not be detected. However, in the context of the research questions this was not seen as a severe limitation.

Factor analysis

The set of 22 competencies was also investigated using the principal components form of factor analysis. The objective of this analysis was to identify patterns of association between individual competencies and determine whether those patterns were the same for the supervisors and teachers. It was also considered valuable to visually compare these associations with those of the DSE list of the 22 competencies and their allocations into the four units.

Response counts to open-ended questions

Questionnaire respondents were asked to answer two open-ended questions, that is, either Part B Question 24 or 25, and Part C, Question 1. These responses were analysed manually.

Broad categories were established on the basis of the types of responses to the questions, that is, the participants generated the categories, not the writer. Individual responses were then allocated to the categories. These were totalled for each category in order to provide further insight into the teachers' and supervisors' perceptions of the contributors to professional excellence.

A large amount of data was provided by the respondents to the three open-ended questions. Responses to the first two questions were

comparatively brief and so were coded by the writer. However, the responses to the third question tended to be very lengthy. To ensure accuracy in coding, assistance was used. This task was completed by the writer, another lecturer in special education and three postgraduate students. Interrater reliability was high at 81%.

The above research design discussion refers to Stage 1 of the study. The design of Stage 2 will be discussed in the following chapter.

Chapter 4

THE RESEARCH DESIGN: STAGE 2 CASE STUDIES

Introduction

This chapter is concerned with the Stage 2 research design, this including an acknowledgment of possible writer influence and bias as well as associated ethical issues. The chapter will conclude with a statement concerning the integration of the Stage 1 quantitative and Stage 2 qualitative methodologies.

The design of this stage of the research study was based on the concept that it should provide an additional perspective to the data and analysis of Stage 1, as discussed in the previous chapter. This perspective was to allow intensive, open-ended probing of a small number of cases. The purpose was not to find answers to specific questions as in Stage 1. Rather it was to provide a situation that would result in the writer being able to answer the following.

- (i) What was the path that this teacher took in his/her development of excellence in terms of the NSW competencies?
- (ii) Are there commonalities between the teachers in the case study research concerning their development of these competencies?

Essentially the same phenomena (the factors which are associated with the development of excellence in teaching) were examined in the two stages but this was done in different ways. This stage facilitated, through open-ended questioning and reflective listening, each teacher's own construction of the history and landmarks of his/her learning. It allowed the teacher to "trace a path" (Strauss and Corbin, 1991, p.168) of his/her professional development. The teachers individually pondered on, made sense of, and recounted their professional development biographies.

Although the interviews were not structured, they were directed. Direction was given by the context provided by the writer.

This context was the 22 competencies of the NSW DSE competency statement. As with Stage 1, and as explained in Chapter 1, there was an assumption underlying the whole of this research study. This was that the competency statement encapsulates the essential skills, attitudes and knowledge of teaching and is thus an acceptable means of measuring and discussing professional performance and development.

The methodology chosen for this stage was phenomenology. The phenomena being examined were the contributors to the teachers' professional development. The particular strategy mix employed in this study was the one the writer considered to have most potential in further illuminating the research questions. This mix was the fieldwork activities of participant observation and the interpretation of interviews. In writing of participant observation strategies, Denzil and Lincoln (1994, p.203) stated:

Such methods are characterised by the collection of relatively unstructured empirical materials, a small number of cases, and a writing style and analysis that are primarily interpretive, involving descriptions of phenomena.

Stage 2 accorded with this definition. Data collection occurred in the naturalistic setting of the classroom.

The participant observation of the selected teachers was undertaken not so much for the purpose of recording teacher behaviour for later analysis but rather for later reference in the interview situations. Such reference was used by the writer-as-interviewer as a prompt for the teacher's own individual reflections on how he/she learnt a particular teaching competency (one of those in the DSE NSW competency list). The interviewer's role was to prompt reflection through open-ended questioning and reflective listening. The interviews followed observation of teaching periods whenever it was convenient and possible for the teacher to withdraw from his/her professional duties. All interviews were audiotaped.

Case notes were kept for both the observation and interview activities. However, the keeping of lengthy notes in this study was not necessary.

The teacher was not being professionally appraised (this had already been done in Stage 1 and it was known from this that all those in the case studies were excellent), nor were his/her teaching strategies being described for later analysis. Case notes were kept for two purposes. They were used to remind the writer and through her the teacher of particular demonstrations of specific teaching competencies. Interview notes were kept to assist in the interpretation of the transcribed interviews.

The sample

The criteria for choosing the sample of teachers to participate in this case study research were given serious consideration. Only excellent teachers were chosen. Whilst some have argued for the inclusion of negative cases, it is more common to include positive cases only (Denzin and Lincoln, 1994, p.202). Further, it was considered that the sample should contain a heterogeneous mix concerning characteristics other than excellence.

Teachers were selected to take part in Stage 2 of this study on the basis of the following:

- they volunteered to take part by completing a "Consent to Visit" form and later verified this;
- they appraised themselves and were appraised by their supervisors as excellent;
- they represented, as far as possible, a cross-section of state special education teachers in NSW in terms of:
 - the male/female ratio,
 - the range of geographical locations,
 - the variety of professional development backgrounds,
 - the range of ages,
 - the range of current teaching situations,
 - the range of length of teaching experience.

Each of the above points will now be discussed.

The final page of the Teacher Questionnaire (used to provide the data for Stage 1) was the "Consent to Visit" form to be completed by those teachers who were willing to participate in Stage 2 and whose supervisor and

school principal both agreed to this involvement. See Appendix 1, Teacher Questionnaire, for the wording of this form. The criteria chosen for the judgement of excellence was that the teacher should receive from herself/himself and from his/her supervisor four or five on all the 23 Likert scale questions on the two questionnaires.

Broad demographic representation was regarded as important in order to prevent data bias resulting from a sampling of very similar teachers. The principles used in the selection (listed above) of participants were formulated in order to provide a cohort of teachers who, as far as possible, represented the range of teachers in NSW state schools in terms of age, training, gender, teaching experience, current teaching situations and geographic locations. These criteria were very similar to those employed in the National Board of Employment and Training report on "Workplace Learning in the Professional Development of Teachers" (NBEET, 1994, p.36) in the researchers' selection of 10 participants in the case study section of their Australian research. Five participants were used in Stage 2 of this current study and these are identified as Teachers A, B, C, D and E.

The details of their selection (apart from the "excellence" criteria) are now outlined. As NSW DSE does not keep statistics concerning the male:female teacher ratio, professional backgrounds and even ages of the entire special education teaching force (Shearer, 1997), it was necessary to make decisions on the basis of the researcher's long experience in the special education teaching profession. This has already been referred to in Chapter 1.

A total of 31 teachers volunteered to participate in Stage 2 of this study. Of these 25 were members of a pair, that is, they had also been assessed by their supervisors. Thirteen of these satisfied the criteria concerning excellence in that at least the very large majority of Part B, Questions 1-23 received four or five on the 23 Likert scale from both the teachers and their supervisors. A representative sample, using the criteria already explained, of seven was chosen, this allowing two *sparcs* as five was the intended number of participants. In fact two did withdraw, one because of a transfer to another school and one because of a change of mind. All of the remaining five were eager to participate and the general feeling held by them and their principals was that their school was honoured to have

been chosen for the study. The participants are described in detail in Chapter 7, Data Analysis: Qualitative Analysis of the Case Studies.

Following the selection of the Stage 2 participants, using the criteria listed above, they were phoned by the researcher and the project further explained. This included a description of the observation and interview aspects including that it was not the writer's intent to disrupt the normal school/class activities in any way. Care was taken to ensure that the teachers understood that the visit would not include an evaluation of their teaching. Assurances were given that it was known that they were deemed excellent because of their, and their supervisor's responses, to the Questionnaires and that this was one of the reasons for their selection. They were again asked to check that both their supervisor and principal agreed to the visit. If the volunteers were at this stage still willing to participate, a letter was sent which provided more details and also an example of the writer's interviewing and questioning-style. Following this another phone call was made and, if the volunteer was still agreeable, details of the visit were finalised.

It was considered that the above plan for ensuring that the teacher understood the intent of the visit was essential. The type of information sought could not be obtained in a relaxed and open situation unless the teacher felt completely willing to participate and comfortable. It was particularly important that the teacher felt confident that he/she was not being evaluated by an *expert from the university*.

The basic question of this research required that this section of the study involved intensive probing of the perceived contributors to the professional development of these excellent special educators.

Stage 2 pilot study

It was considered necessary to conduct a pilot study prior to finalising the format and nature of the case study observations and interviews. The intention was to identify any difficulties, make any modifications necessary and practise the interview activity so that it might then proceed more smoothly. This is not to suggest that the actual research fieldwork was itself not a learning experience and that the conduct of subsequent

observations and interviews was not influenced by the learnings of earlier interviews.

A local teacher, whose excellence was widely recognised, agreed to participate in the trial. She was visited in her class setting, observed and interviewed. The taped interview was then transcribed and this together with the field notes were reviewed and discussed with several experienced researchers. Also discussed was the actual process of the activity. In addition the subject of the pilot study was asked for her perceptions of the experience, especially her level of comfort. The transcribed interview confirmed that the plans for the full study were, in general, appropriate. Suggestions were made about the writer's interviewing techniques and these were incorporated into the case study plans.

The case studies: Observation and interview activities

Each of the five participants was visited for a full two-day period. Care was taken that the timing of this visit was during a *normal* teaching period, that is, it was not during rare activities such as school camps but that the more common activities and visitors occurred as usual. The usual interruptions and responsibilities of playground duty, parents seeking advice or support, other teachers borrowing materials and so on proceeded as they did normally.

The situation of having a visitor, in this case a participant observer, in the classrooms was a more natural one for the students and the teachers than it probably would have been for teachers of mainstream classes. Most special education classes have a comparatively large number of visitors such as trainee teachers, other professionals and parents. Some of these would be participant observers. The writer's visit was not regarded as unusual by the students nor by the teachers. Teaching and learning appeared to proceed in a fairly normal way. It must be remembered that the cooperating teachers were known to be excellent and hence would have trained their students to continue working as usual despite visitors.

It was essential to the maintenance of normality in each classroom that the students knew why the writer was present. On arrival she was introduced and she then told the students the reason for the visit. This

was explained as "I know that _____ is an excellent teacher and I am going to watch you all so I can find out how she became so good" or an explanation to this effect that the particular students could understand. The writer's intent was to sit in an unobtrusive position in the classroom, not taking part in any activities but merely observing and taking notes. It was, however, also the intent to respond briefly and in a friendly manner if any student, or the teacher, approached or spoke. The purpose was to be as remote as possible in order to minimise any effect on the students and their teacher but at the same time to be pleasant and cooperative in order not to negatively affect the usual classroom climate and activities. It was realised that the very presence of the writer would affect the classroom at least to some extent but it was hoped that the "participant" aspect of "participant observer" would be minimal. It was expected that the remoteness/pleasant balance would be different in each class situation. This proved to be so

Observation took place throughout all of the two days in whatever geographical or teaching situation the teacher was in. Throughout this time field notes were made in order to provide a context for the later questioning of the teacher. As questioning was based on the NSW DSE competencies the field notes largely comprised descriptions and comments regarding instances of the demonstration of any of the 22 competencies. These instances could relate either to elements or performance appraisal descriptors listed in the competency statement. It was expected that over the two-day visit the majority, but not all, of the competencies would be demonstrated.

These field notes also provided a context for the development of insights into the teacher's unique story of the contributors to his/her professional development. It was considered preferable that the interview concerning the demonstration of a particular competency take place as soon as possible after the teaching segment in which it occurred. At times the teacher was able to hand over her duties to the teacher's aide and so a brief discussion was possible. This only happened when the teacher herself/himself suggested it. The reality of classroom teaching, however, meant that this was rarely possible and it was more usual for some time to elapse between observation and interview. The large majority of interviews occurred in the morning tea and lunch breaks and after school.

Some occurred during a *free* (free from face-to-face teaching) period. All teachers gave very generously of their time for this purpose. Each of the five interviews totalled two or more hours over the two-day period. A total of 75,000 words was recorded during the 10 day interview process.

The interviews commenced with the writer reminding the teacher of a particular incident (the manifestation of a competency) that she had observed and then asking the teacher how he/she had developed the skill, knowledge or attitude underlying that incident. The competency could have been manifested in a variety of ways including a casual remark to another teacher in the staffroom, part or the whole of a classroom lesson to an individual or a group of students, participation in a formal meeting, comments about his/her communication with parents.

Two features of the NSW DSE competencies should be noted in terms of their application to Stage 2. Firstly, the individual competencies are listed in the NSW document (as in all such competency lists) as though they are discrete aspects of teaching. In practice this is not so. A teacher might well, in practice and in conversation, demonstrate concurrently a number of competencies. Thus a conversation could take place (between this writer, a parent, or another teacher) in which a teacher demonstrated NSW DSE Competency 1 (an understanding of special needs, provisions, implications), Competency 17 (ensure that parents and students are provided with information and strategies concerning rights) and Competency 19 (provide support to parents). In the classroom a teacher might concurrently make decisions using information from the reports of other support personnel (Competency 5) in order to identify learning outcomes and place these in priority order to maximise independence (Competency 7). In general, when analysing the transcribed interviews, it was possible to allocate a section of the conversation to a single competency, this being the dominant one (if two or more competencies were being discussed). However, at times, two or even three competencies seemed to be of importance in the discussion and then both, or all of these, were allocated to that section of the conversation.

Secondly, not all competencies were demonstrated over the two days spent with each of the teachers. All teachers demonstrated most of the competencies and some demonstrated the large majority of these. The teaching was observed as it occurred in the natural situation and no

attempt was made to intervene and structure or manipulate it in any way in order to observe additional competencies.

A small number of competencies were less applicable, or not applicable at all, to some teaching situations. Examples of this are: Competency 19 (provide support to parents) which was not applicable to the school setting in the Juvenile Justice remand centre for young offenders awaiting sentencing (such teachers do not have contact with the parents) but was applicable to all the other teachers; Competency 16 (advocate for individual programs from the earliest point of need) which might well not be demonstrated, or mentioned, during the two days, particularly by secondary teachers, but would possibly be more commonly demonstrated over a longer period of time; both Competency 22 (use of efficient reporting procedures) and its counterpart Competency 5 (make decisions using reports from others) which are unlikely to be demonstrated on a daily basis but would probably occur regularly on a longer term basis.

The following is taken from the interview as an example of how an observation of one or more teaching segments was used to prompt reflection about the development of the competency.

The writer:

I noticed that you used a variety of strategies, for example, reading with some children. I think perhaps all of the children. You had flash cards. Those flash cards seemed to be the most common words. Another child - it seemed that his words came out of his environment and you then paired that with another child who had language experience. I think that was Mark wasn't it? You wrote down a sentence that he had given. So you have different strategies. Where did you learn these strategies and where did you get the idea that you have to choose strategies to suit the child?

Teacher B:

The foundation was laid once again through the course. I wasn't aware of any of those sort of teaching strategies until I'd done the course...

Teacher B continued her description of the developmental path of various strategies. "The course" she referred to was her post graduate training in special education. The above discussion related to number eight of the

NSW DSE competencies concerning the teacher's use of "research-based instructional strategies to achieve learning outcomes".

All demonstrated competencies and their context were briefly described in the field notes as they occurred. As stated in Chapter 2, in Australia, professional competency statements are usually written using the headings, *units* (broad categories), *elements* (major aspects of these broad categories) and *performance criteria* (details of the skills, knowledge and attitudes to demonstrate the ability to perform the element). The particular manifestation or demonstration, by the case study participants, might have related to the broad element description or to one of the performance criteria listed under the element. Thus, for example, in terms of Competency 1, the teacher in his/her conversation might have demonstrated an understanding of special needs and service provision (part of the element) or the different concepts of impairment, disability and handicap (one of the performance criteria) or, in his/her approach to the teaching of a particular child, a knowledge of a medical condition and its effect on the learning of that child (another performance criteria). Appendix 1, Teacher Questionnaire, in Part B lists the units, elements and performance criteria of each of the 22 DSE competencies.

The process of the interviews was very informal and more in the nature of a conversation than a set question-and-answer activity. The writer's role was to:

- ensure that the teacher felt as relaxed as possible;

The process for doing this varied with each participant. At times it included some comments on a classroom situation that the researcher had also experienced in her teaching. At other times it was a comment about a demonstrated strategy, previously unknown to the writer, that she could use in her lecturing to her postgraduate special education students. The writer at all times showed she was keen to observe and learn from the teacher and that the relationship was one of colleagues with a common professional base.

- focus the teacher's thoughts on her/his development of a particular competency listed in the NSW DSE competency statement;

This was done by the writer recounting a teaching segment that she had witnessed and describing this in the context of a particular competency. An example of this has already been given in relation to the interview with Teacher B. The field notes made during the observation periods meant that the writer could both recount the segment with a degree of understanding and intimacy and as well keep track of the competencies being discussed.

- guide the teacher to deepen his/her reflection about the development of the particular competency.

This was generally done through reflective listening and paraphrasing techniques as well as direct questioning.

The extent of the teachers' relaxation and comfort in the interviewing situations was shown in a number of ways. All participants used the type of short-hand references that are common to special educators and which are well known to the writer. There must have been an underlying assumption that these terms were shared ones. All interviews were characterised by shared laughter over situations which were instinctively understood by both the writer and the teacher. At the end of the two-day period all teachers thanked the writer for the experience and commented on how much they had enjoyed it and learnt from it.

Perhaps the major evidence of the sense of collegiality and trust that was developed was that three of the five participating teachers left the writer in sole charge of the class (the 7 did know that the she was an accredited special education teacher with NSW DSE). One teacher was called away to the phone, one was required to solve a behaviour management situation in another classroom and the third teacher conducted a forty minute teacher-parent interview. In each case this was done with the briefest of requests and almost no indication of what could be done with the class. It was assumed that the writer knew what was required in the activity that was underway.

Analytic procedures

Whilst the term *analysis* is used here in reference to the qualitative data its connotation is different to that of *analysis* as used in referring to quantitative data (Hycner, 1985, p.300). The emphasis in the latter type of analysis is on breaking data down into their smaller parts with particular emphasis on numerical procedures. Whilst the analysis of the Stage 2 data of this research did require segmentation and indexing of the data, the purpose was always to facilitate the development of an understanding of the **whole** phenomena of the contributors to professional excellence. The aim was to develop an understanding of the contributors to the professional excellence of each individual teacher and throughout this process, which would include refining, expanding, rejecting and redeveloping, evolve a theory concerning the phenomena. This theory would not be completed until an understanding of the professional development path of each teacher was brought together in a search for commonalities, or lack of commonalities, in the stories of all five teachers.

The interviews were transcribed by the writer as soon as possible after they took place. This meant that two were transcribed within a very short time but that three were not transcribed for some months. As the transcriptions totalled 75,000 words and as the writer had a full time academic position, it was not possible to do otherwise.

Following the transcriptions of the tape recordings, they were read several times, firstly in order to obtain a sense of the *whole* and then to start to develop a sense of the emerging meanings. During this time margin comments were made and the field notes referred to for context. Following this period of *deepening* into the teachers' recounted experiences and meanings, the transcriptions were manually divided into sections according to the particular NSW DSE competency being discussed. Each of these became a "unit of general meaning" (Hycner, 1985, p.282). Although the writer's questions were designed to elicit information about one particular competency at a time, the responses were occasionally relevant to both that competency and a second competency. The section then would be ascribed to the two competencies.

Having become very familiar with the text of the particular interview and having broadly segmented it into the competencies, the material was then

prepared for analysis using a computer software package, NUD•IST (Non-Numerical Unstructured Data Indexing Searching and Theorizing) developed by Qualitative Solutions and Research (QSR), Pty Ltd at Latrobe University, Melbourne (Richards and Richards, 1994). The version used was 3.0.5. "NUD •IST creates an environment to store and powerfully explore data and ideas, to minimise clerical routing and maximise flexibility, and to discover new ideas and build on them." (QSR, 1994, p.1)

Of the several qualitative computer software packages available (Richards and Richards, 1994) NUD•IST was chosen because it allows data to be entered *online*; because of its coding (or indexing) and retrieval possibilities; its display potential of the indexing system (known as *trees* and *nodes*); the opportunities it provides to make and keep notes about these; and the potential for exploration. It does not relieve the researcher from the decisions about category entries nor reduce the interpretation role. It does make the management of a very large amount of data, as has been collected in this research, easier than it would be without the use of such a program. It also provides a very accessible method of storing notes and of physically viewing the index system as it is being built, revised and extended.

When the interview documents were formatted in the style acceptable to the NUD•IST program, they were introduced online and analysis commenced. The major decision in any analysis of qualitative data concerns the indexing system. NUD•IST has a tree-structured index system which allows hierarchical ordering of categories. The main categories, or branches, of the *tree* are called *parents* and subcategories are called *children*. These subcategories can be further divided into *grandchildren* and so on. The points of connection are called *nodes*. Each node was allocated a number these being determined by the level and position of the node on the tree system. The index system was designed to organise the categories of investigation relevant to this study.

The parent nodes were:

- base data;
- DSE competency items;
- contributors.

The following is an explanation of these categories and their *children*.

base data demographic data; *children* were gender, training, age, area of teaching, all teaching experience, teaching experience in special education

competencies the 22 NSW DSE competencies; *children* were the individual competencies

contributors all those factors which have contributed to professional development as identified by the individual teachers; *children* were these factors as they emerged in the interviews. Thirteen factors emerged.

Further division was made of base data *children*. *Grandchildren* were:

gender male, female

training postgraduate, major inservice, no special education

age 20 - 25 years, 26 - 30, 31 - 40, 41 - 50, 51 - 60

class IO/IS, IM/IO, P, H, CD

mainstream 0 years, 1 - 2 years, 3 - 5, 6 - 10, >10

special

education 1 year, 1 - 2, 3 - 5, 6 - 10, >10

The above was depicted as a NUD•IST tree.

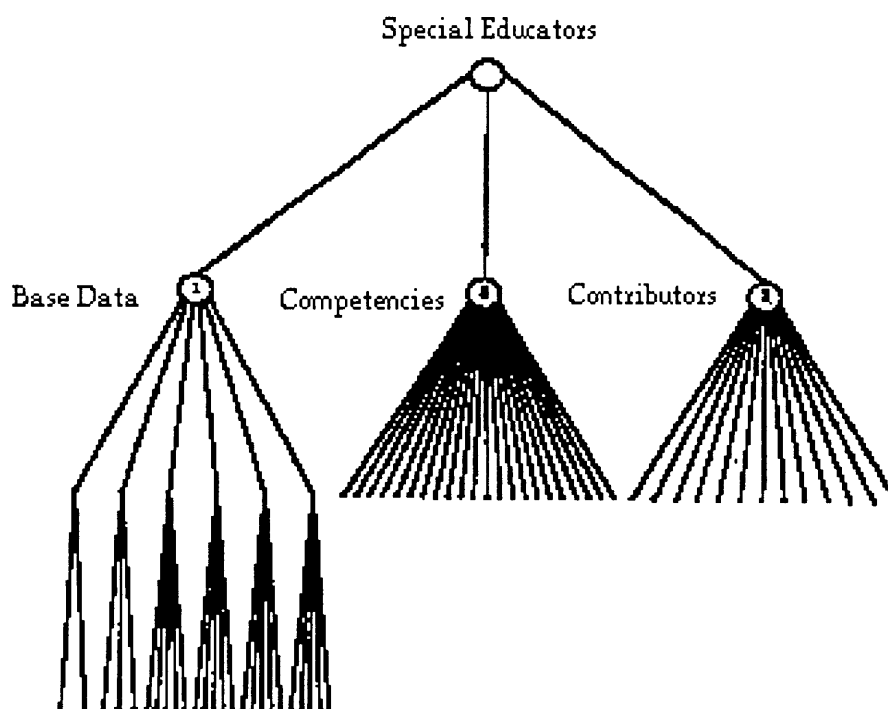


Figure 4.1

NUD•IST index system for the analysis of the qualitative data

All units of general meaning were entered into the relevant categories. This meant that all were entered into at least one each of the children of the base data, competency items and contributors.

NUD•IST allows ideas, understandings, notes, quotations to be documented concerning any node. This is done through the writing of *memos*. In this study memos were used to store pertinent quotations as “units of meaning relevant to the research question” (Hycner, 1985, p.282). Definitions of each node can also be stored. Alterations and refinements can be made at any of the stages described. This facility is particularly useful when alterations need to be made to the indexing system as a result of emerging insights. Reports can be made concerning any or all of the nodes or the text indexed at these nodes. This allowed the sorting, verification and exploration of data and, through this, the emergence of theory in relation to the phenomena of the contributors to professional excellence. In fact theory emergence, theory construction and theory testing are able to happen concurrently as an ongoing and interrelated process.

And so the web - of code, explore, relate, study the text - grows, resulting in little explorations, little tests, little ideas hardly worth calling theories but that need to be hung onto as wholes, to be further data for further study. They link together with other theories and make the story.

(Richards and Richards, 1994, p.448)

When the five case studies were analysed in the these ways, they were then examined together in terms of commonalities and differences. This process had the potential to enrich the understanding of the individual cases as well as provide a deeper overall understanding of the contributors to teaching excellence. Thus the emerging theories and developing ideas concerning *authenticity* and *confirmability* (Guba and Lincoln, 1994) were verified.

Acknowledgment of possible writer influence and bias

It is acknowledged that the collegial role assumed by the writer had both benefits and potential disadvantages.

The personal nature of observations is both their strength and weakness; their strength in that personal involvement permits first hand experience and understanding, and their weakness in that personal involvement permits the introduction of bias and distortion.

(Patton, 1980, p.192)

The whole two-day visit to each participating teacher was influenced by the writer's particular professional background and current professional position. She had much in common with the teachers having herself been a teacher for several years in similar situations. It must have been very obvious to the teachers that she was very much *at home* in the school and with the students. In addition she very early established that she and the teacher had professional contacts in common. During morning tea and lunch breaks in the school staffroom other teachers in the school spoke of having met the writer at conferences, association meetings, inservice courses and the usual discussions followed about the professional and personal lives of mutual friends. It was impossible to be other than a colleague in this situation.

This meant that there was an ease in entering "into the world of the unique individual who was interviewed" but that it was difficult to suspend "the researcher's meanings and interpretations" (Hycner, 1985, p.281). In terms of the writer's school teaching experience it seemed probable that this was an advantage and that in broad terms the writer's meanings and interpretations were not at great variance to those of the teachers.

However the current professional role of the writer as a senior lecturer at a university, responsible for the coordination of a postgraduate course for teachers may have had a detrimental influence on the teachers. Those teachers who had undertaken such training may have decided to *please* the writer by attributing their excellence more to their training than was the case. If the teacher had not undertaken this type of training she may have felt some professional inferiority. For this reason, as well as due to natural inclination, the writer endeavoured to project a teacher image rather than an academic image. However, clearly the whole research project was connected to the writer's academic life and this could not be ignored.

It is not possible to know what effect the writer's background had on the nature of the data obtained from these interviews. Open-ended questions were used in the interviewing situation and care was taken throughout not to suggest that there were *right* answers. The nature of the responses suggested that the teachers did not have any sense of obligation to answer in any particular ways. Responses were free-roaming around a large number of factors which contributed to their excellence. The fact that the teachers knew themselves to have been chosen because of their excellence, and that their supervisor's appraisal confirmed their own self appraisal, must have engendered confidence. They knew that whatever their professional development experiences had been these had contributed to their excellence. It would seem that they would therefore have considered that all these experiences were worthy ones and should be acknowledged.

On the other hand the writer's background as a class teacher, education administrator and currently as an academic, all of these being in special education (this has been discussed in Chapter 1) may have resulted in a particular bias due to her preconceptions. It was possible that this could have resulted in her framing questions and extending probing in areas in which the teacher was giving credit to her postgraduate training. It also had the potential to influence the interpretation of the teachers' responses in the interview situations. Care also had to be exercised against a possible "tendency to select field data which are conspicuous because they are exotic, at the expense of less dramatic (but possibly indicative) data" (Fielding and Fielding, 1986, p.32). The writer remained vigilant against such potential dangers. To verify that she had not been selective or biased in her questioning, two colleagues (one a special educator and the other a fellow academic) were asked to scan the transcriptions. It was their opinion that leading questions were not asked.

Care was also taken to minimise the effect the process of observation had on what was observed. This was done by being as remote as possible from what was going on in the classroom, that is, by being as far as possible an *observer* rather than a *participant observer*. However, it must be acknowledged that "The process of observing affects what is being observed" (Patton, 1980, p.189). It is clear that the writer's attempts to put the teachers at ease also resulted in their regarding her as someone able to take over the class in the teachers' absence. Thus whilst it was the writer's intent to be remote in her behaviour within the classroom, in fact this was

not achieved. This is not regarded with serious concern. The observation of the teacher's behaviour was conducted for the prime purpose of making notes to use for the later prompting of the teacher's reflection on his/her professional development. If the writer's presence changed his/her behaviour so that she demonstrated another competency to that which would have been used if the writer had not been present, there would still have been value in the later charting of the development of that behaviour.

Ethical issues

As previously stated the NSW DSE requires its approval before any research can be conducted in any of its schools. Where the proposed research is state-wide, as it was in this study, this approval must be obtained from the central Quality Assurance Directorate. In granting approval for this research study the Directorate required that certain conditions be met. These have been explained in Chapter 3.

As explained in that chapter neither the participants' names nor their schools were required for the completion of Stage 1. Participation in Stage 2, however, meant that anonymity was not possible for the writer needed to know the teachers' name and school address. In the Consent to Visit form at the end of the Stage 1 Teacher Questionnaire (see Appendix 1) the exact nature of the Stage 2 participation was described. In ensuring that consent was informed, the researcher complied with the criteria described by Cohen and Manion (1994, p.350), that is, "competence, volunteerism, full information and comprehension".. "Competence" in this context means that, as able adults, the Stage 2 volunteers were in a position to make a responsible and mature decision about their participation. Those who did volunteer were required to provide the necessary information for contact (name, school address and phone number). This needed to be returned with both the volunteering teacher's signature as well as the principal's signature indicating his/her approval. The steps (phone calls and letter) taken to ensure that the volunteering teachers were fully aware, prior to the visits, of what these entailed have already been described. Assurances were given to these teachers that they would not be identified by name in this thesis, nor in any report or journal article. As all had been selected partly on the basis of their excellence in teaching it

was not surprising that all, unmasked, suggested that these precautions were unnecessary.

Conclusion: Integrating the two methodologies

The findings from the two methodological procedures, the Stage 1 survey discussed in the preceding chapter and the Stage 2 case studies discussed in this chapter, were brought together in order to develop a more holistic and deeper understanding than each of the methodologies separately could have provided. The purpose was:

- (i) to examine the results of the two methodologies in order to determine if there was congruency and compatibility of findings. If this was so it would serve to confirm the validity of the results of each of the two stages of the study;
- (ii) to uncover any patterns and commonalities occurring in both the quantitative and qualitative findings. If such patterns did occur this could allow the development of the profile of an excellent special educator in terms of the factors associated with that excellence.

Point (i) above involved both broad and detailed comparisons. Broad comparisons were made, for example, about the relative weightings of the factors associated with excellence. Detailed comparisons were made, for example, between the individual teacher's responses to survey Questions 29, 30 or 31 concerning the contributors to his/her professional development and the allocation of contributors by this same teacher in the interview situation. Both consistencies and inconsistencies required interpretation and both had the potential to further illuminate the research area.

Point (ii) was the major focus for the integration of the quantitative and qualitative methodologies. There were further benefits of the findings if each served to further illuminate the findings of the other. Thus the qualitative stage was potentially of value in the interpretation of the statistical findings and the case studies themselves had the potential to be a source for illustration of the statistical findings (Fielding and Fielding, 1986, p.27). Conversely, it was hoped that the quantitative findings would serve to identify both representative and non-representative cases in the qualitative study. The findings will now be presented.

Chapter 5

DATA ANALYSIS: DESCRIPTION OF STAGE 1 PARTICIPANTS

Introduction

Three chapters are devoted to the data analysis. This chapter describes the participants in the Stage 1 mail surveys. The following chapter contains the results of the quantitative analysis of the Stage 1 mail survey. Chapter 7 presents the findings of the qualitative stage of this research. There is very little discussion of the significance of the findings in these three chapters, this being the subject of Chapter 8, Convergence and Discussion of the Findings.

This chapter reports the frequency analysis of Stage 1 questionnaire responses in order to provide a description of the participants. The objectives of this analysis were to:

- calculate the percentages of categories of responses to questions concerning the participating special educators in order to determine the spread of teacher and supervisor representation;
- calculate the percentages of categories of responses to questions concerning the professional characteristics of the respondents in order to understand better their characteristics including their overall competence;
- calculate the percentages of responses to questions directly related to answering the research questions.

The Statview program was used to calculate the frequencies of the various responses to all Part A questions of the questionnaires. Frequency distributions of the responses to Part B, Question 23 were also computed using the Statview program.

Some of the questions analysed in this way allowed for a large number of alternate answers, whilst others required a simple "Yes" or "No" answer. Where there was a range of responses to a question, the response frequencies are shown on a table: where there were only two possible answers to a question these are simply discussed without the aid of a table.

With one exception the frequency distributions were computed from the questionnaire responses. The exception concerns the geographical spread of the respondents' schools as indicated by the postcodes of the schools' addresses. This information will be presented following the presentation of the other frequency analyses. These are discussed in the order that they were elicited in the questionnaires. See Appendix 1 for the wording of the questions in the Teachers' Questionnaire. As previously explained, Part A and Part C wording is the same in the Teacher and Supervisor Questionnaires. Part B wording is very similar, the only difference being that in the Teacher Questionnaire the questions are about the teacher, whilst in the Supervisor Questionnaire they are about one of the teachers being supervised. Only one question in Part B, Question 23, is relevant to this chapter. The headings for the discussion of each question will be an abbreviated version of the full question as it appears in the questionnaires.

A small number of the questions did not lead to useful findings, perhaps because the wording of the question resulted in some obvious confusion or because the respondents themselves did not appear to have the knowledge required to answer the particular questions. These points are explained below.

The number of teachers who completed the Teacher Questionnaire was 168 and there were 178 supervisors who completed the Supervisor Questionnaire. A few respondents did not complete all the questions. This may have been, in some cases, because the question had no response category that was applicable to them, for example, Question 1 which included no category for non-teaching supervisors; because they had forgotten the information, for example, Question 19 concerning their undergraduate study; because they did not know the answer, for example, Question 13 about their future plans; or because of the pressure of time.

As well as showing the incidence of responses within categories, the Statview program computes percentages of responses. In the tables below, the percentages shown are generally those generated by the Statview program, that is, they show the proportion of respondents of the total sample who chose a particular category of response. With few exceptions, which will be discussed, the number answering a particular question was the same or almost the same as the entire sample of respondents (168 teachers, 178 supervisors).

In a small number of questions only a group of the respondents was required to answer a question. These questions concerned mainstream teaching (Questions 7-8), teaching experience (Questions 16-17) and particular types of training (Questions 29-31). In these cases it would have been misleading to have presented tables with percentages relating to the entire respondent samples. Where only some of the entire samples were requested to answer particular questions, the percentages shown on the relevant tables are those relating to the total membership of that group. **The principle underlying the percentages shown on all tables is that they depict the portion of respondents who were eligible to answer the particular question.**

In the following discussion of the responses to the individual questions, the writer used tables, and/or percentages and/or incidence figures depending on which were considered to best illuminate the response pattern. Where percentages are used these are rounded to the closest integer. In a very small number of tables this has resulted in the percentages totalling 101%. However, a larger number of tables have percentages which total below 100%, this being due to the rounding of figures or to failure of all eligible teachers or supervisors to answer a question.

In several questions the participants had the opportunity to generate their own additional categories if none of the provided alternative responses was suitable. In some cases, for example, Question 14 (reason for entering special education), this meant that there were many additional categories of answers. Where there were several alternative responses to a question and only one respondent or at most two, who chose a particular alternative, in general, that category of response has not been included in the table and ensuing discussion. This is another reason for many

responses totalling less than 100%. If a response category is empty in either the teachers' or supervisors' analysis, but not in both, it is included in the tables of both groups in order to allow comparison.

It had been the intention of the writer to compare the responses concerning category of exceptionality, age and location (Questions 1-3) of students being taught, as well as those relating to some characteristics of the participants, with those of the total NSW DSE special education teaching force. This would have allowed the writer to determine the extent of the representation of the samples used in this study. This was not possible. At the time of data collection, much of the NSW DSE administration was regionally based. There was not uniformity of record-keeping between regions, at least in terms of special education. In 1996 the system became centralised. At the time (1996) of writing this thesis some prevalence figures were still "impure". The writer was informed by the Manager of Recruitment, Ms Linda Shearer, that "The system is not entirely accurate having been maintained over the last five/six years by regional staff with varying levels of skill and accuracy in data collection" (Shearer, January, 1997). Shearer provided the following 1996 figures (including the question-mark) given below in Table 5.1. She cautioned that they are approximate. Figures for 1994 would have been similar. Other information sought, such as the number of special educators working in the various categories of exceptionality, the numbers with postgraduate training, the average age of the special education teaching force and the proportion of female to male special educators, neither is, nor was, kept. The writer is, therefore, largely reliant on her own NSW system-wide experience to identify major anomalies between the samples in this study and the State-wide situation.

Table 5.1
NSW DSE special education teaching positions in 1996

	Teachers	Supervisors
Pre-school	57 (?)	none
Primary	1714.48	274.8
Special schools	501.964	294.0
Secondary	530.45	not known

The above figures include all special education teaching positions. Not all of the teaching positions were filled at the time of the census. This study is concerned only with those special educators who were in units or special schools that had special education supervisors. The study does not include isolated special educators of whom there is a large, but unknown, number. As explained in Chapter 3 the sample represented more than 10% of the total special education teaching force.

The frequencies of responses to Part A, Questions 1 - 33 and Part B, Question 23 will now be presented and discussed.

Descriptive analysis

Current category of teaching (Part A, Question 1)

This question was asked in order to obtain information concerning the spread of respondents across the NSW special education teaching and supervising areas.

Table 5.2
Areas of exceptionality being taught by the teachers

Category of Response	Count	Percentage
1 Learning difficulties	20	12%
2 Mild intellectual disability	44	26%
3 Moderate intellectual disability	39	23%
4 Severe intellectual disability	13	8%
5 Behaviour disorders	8	5%
6 Visual disability	3	2%
7 Hearing disability	14	8%
8 Physical disability	9	5%
9 Language disorders	3	2%
10 Intensive reading	6	4%
11 Early school support	3	2%
12 Early childhood	3	2%
13 No face-to-face teaching	0	0%

Table 5.3
Areas of exceptional ability being taught by the supervisors

Category of Response	Count	Percentage
1 Learning difficulties	7	4%
2 Mild intellectual disability	27	15%
3 Moderate intellectual disability	26	15%
4 Severe intellectual disability	13	7%
5 Behaviour disorders	5	3%
6 Visual disability	5	3%
7 Hearing disability	10	6%
8 Physical disability	8	4%
9 Language disorders	5	3%
10 Intensive reading	6	3%
11 Early school support	0	0%
12 Early childhood	1	1%
13 No face-to-face teaching	7	4%

The above two tables, with one exception (learning difficulties), indicate to the writer that the samples of teachers and supervisors are broadly representative of the NSW special education teaching situation. As no category figures are available from the DSE, the writer has made this statement on the basis of her long experience in NSW DSE. The figures accord, in general, with the disability prevalence figures given in such special education publications as that of Ashman and Elkins (1994). The teachers' responses were distributed over all the 12 teaching categories given in the question. The supervisors' were distributed over 11 of the given categories and this group added a thirteenth response, "no face-to-face teaching". As only 120 supervisors (68%) answered Question 1, it appears that whilst a few added this category many did not respond because they found no suitable category. It is probable that these supervisors were in non-teaching positions as school principals or other executive positions.

The largest number of teachers taught students with intellectual disabilities, particularly those with mild and moderate disabilities. This reflects the comparatively large number of these students needing special education services. As expected there were smaller numbers of respondents in the lower incidence areas of disability. The category ESS

(early school support), a comparatively new teaching category in the NSW DSE, had relatively few teachers and fewer supervisors working in that area. Category 13, representing no face-to-face teaching, does not apply to teachers, and hence had no members.

A disproportionately small number of teachers identified that they taught students with learning difficulties, the disability of largest prevalence in terms of special education needs (Ashman and Elkins, 1994). There are two possible explanations for this. Firstly, a support teacher of students with learning difficulties is sometimes the sole special educator working in his or her school (or across schools) and if so would not have a special educator as supervisor. Such a teacher would not have received the questionnaire. Secondly, some teachers of students with learning difficulties teach in two or more schools. Those who did have special education supervisors may have felt, or their supervisors may have felt, that their competence was inadequately known to be justly appraised. In 1994, there were no teachers in promotion positions formally allocated to this type of teaching. Seven supervisors responded that they taught students with learning difficulties. These supervisors must have been doing such teaching because of school-based arrangements.

Age groups of students (Part A, Question 2)

Table 5.4

Age groups of students taught by the teachers

	Category of Response	Count	Percentage
1	3-5 years	12	8%
2	5-8 years	27	19%
3	8-12 years	28	19%
4	12-16+ years	59	42%
5	Kindergarten-Year 12	14	10%
6	Combinations of groups	0	0%

Table 5.5
Age groups of students taught by the supervisors

Category of Response	Count	Percentage
1 3-5 years	3	2%
2 5-8 years	18	10%
3 8-12 years	42	24%
4 12-16+ years	58	33%
5 Kindergarten-Year 12	25	14%
6 Combinations of groups	27	15%

Five possible responses were given in the questionnaires. A number of participants added a sixth category, that is, more than one age group (but not Kindergarten to Year 12 which had been given as the fifth category of response). Twenty-eight teachers did not respond to this question. It can only be assumed that no given category was relevant to them and that, unlike the supervisors, they did not generate a new one, "Combinations of groups".

Tables 5.4 and 5.5 show that there was a spread of age groups being taught. A small number of teachers and supervisors were involved in the education of preschool age children. It could be expected that these numbers would be small. Many children with disabilities in this age group have not yet been identified (particularly those with mild disabilities and with learning difficulties) as needing special education. The numbers of participants involved with primary age students is almost identical to those involved with secondary age students. This does not accord with the 1996 Shearer figures given in Table 5.1 which shows a much higher proportion of special educators at the primary age (5-12 years) level than participated in this study. Table 5.1 list specials schools separately and so it is not known how many special educators were teaching at the primary or secondary age levels in those settings. As previously explained it is also not known how the overall State figures relate to those teachers and supervisors accessed in this study, that is, those in units or special schools. It is thus impossible to make a statement about the representation of the sample used in this study except that there are strong indications of an overrepresentation of teachers at the secondary level.

A small proportion of the respondents was engaged in teaching students from kindergarten (students of approximately five years of age) to Year 12 (18 years). These teachers and supervisors would have been in special schools where there is sometimes across-age flexibility in teaching and particularly in supervising or in central schools where such across-age responsibilities are usual. Central schools are schools which cater for students from Kindergarten to Year 10 or Year 12. These schools are usually in very small NSW towns. Category 6, which involved the teaching of different age groups but not Kindergarten to Year 12, had no teacher entries.

Types of schools (Part A, Question 3)

Table 5.6
Teachers' teaching locations

Category of Response	Count	Percentage
1 Special school	45	27%
2 Mainstream school	92	55%
3 More than one school	7	4%
4 Support centre	19	11%

Table 5.7
Supervisors' teaching locations

Category of Response	Count	Percentage
1 Special school	52	29%
2 Mainstream school	100	56%
3 More than one school	5	3%
4 Support centre	19	11%

The above two tables are very similar and show a broad representation of school types. The large majority of respondents were in mainstream schools with a smaller number in separate special schools. This accords with the 1996 DSE figures (Shearer, 1997) shown in Table 5.1. The responses showing 19 teachers and 19 supervisors located in support centres suggests some confusion concerning terminology. At the NSW DSE State level, the term *Student Support Centre* refers to the ten regional centres (at 1994) established to assist students with learning difficulties. This is what this writer intended to indicate in the question. The

unexpectedly large number of participants who chose this response suggests that some were referring to another teaching setting and that they were possibly using a school-devised term to describe a unit within their particular school.

The above first three question responses show that the respondents represented the full range of special education teaching situations (other than those isolated situations in which there was only one or two special educators) within the NSW DSE. It is impossible to say with certainty how representative the samples were. It can be said that there appears to be an overrepresentation of secondary teachers and an underrepresentation of teachers of students with learning difficulties but that, in the writer's experience, the samples do not diverge greatly from what could be expected.

The responses to the following group of questions are valuable in providing insights into, and understanding of, the cohort of respondents.

Length of teaching in current category of class or support (Part A, Question 4)

Table 5.8

Teachers' length of teaching in current categories of class or support

Category of Response	Count	Percentage
1 Less than 1 year	18	11%
2 1 - 3 years	54	32%
3 4 - 10 years	69	41%
4 more than 10 years	26	15%

Table 5.9

Supervisors' length of teaching in current categories of class or support

Category of Response	Count	Percentage
1 less than 1 year	14	8%
2 1 - 3 years	28	16%
3 4 - 10 years	80	45%
4 more than 10 years	50	28%

These tables show that the respondents, as a group, were experienced in their current special education field. As expected, the supervisors were more experienced than the teachers.

Enjoyment of special education teaching (Part A, Question 5)

Almost all the teachers (99%) and almost as high a number of the supervisors (94%) reported that they usually enjoyed their teaching in special education.

It is interesting to consider these figures in relation to Question 14 which sought information concerning the respondents' reasons for entering special education. Most teachers and a considerable number of supervisors did not enter special education teaching because of a commitment in this area. However, when in special education, they reported that they enjoyed it.

Mainstream teaching experience (Part A, Question 6)

Table 5.10

Teachers' length of mainstream teaching experience

Category of Response	Count	Percentage
1 Never	24	14%
2 Less than 2 years	30	18%
3 2 - 5 years	38	23%
4 6 - 10 years	38	23%
5 More than 10 years	38	23%

Table 5.11

Supervisors' length of mainstream teaching experience

Category of Response	Count	Percentage
1 Never	15	8%
2 Less than 2 years	21	12%
3 2 - 5 years	38	21%
4 6 - 10 years	44	25%
5 More than 10 years	59	33%

Most of the teachers (86%) and the supervisors (91%)` had some years of mainstream teaching experience. As most also had completed specialist postgraduate training (see responses to Question 28), this reflects the fact that many of the teachers selected for the DSE sponsorship program for training special educators (cadetship program) were mainstream teachers. The supervisors as a group had more mainstream teaching experience than the teachers. The explanation could be that as a group they were older (shown by responses to Question 32) and that it is probable that a considerable number of them undertook their postgraduate training when it was still the practice (until the mid to late 1980s) for most NSW universities to require teaching experience as a prerequisite to entry to such training.

Timing of mainstream teaching (of those who had taught in mainstream classes) (Part A, Question 7)

The large majority of the participants (122 teachers and 117 supervisors) who had taught in mainstream education commenced their professional lives there and then transferred to special education. It would appear that a few had moved back and forth between mainstream and special education classes. This had not been anticipated when designing the questionnaires but a few respondents indicated this to be the case.

Enjoyment of mainstream teaching (of those who had taught in mainstream classes) (Part A, Question 8)

Analysis shows that 136 of the teachers and 153 of the supervisors reported that they had enjoyed their mainstream teaching. Thus the majority of these teachers and supervisors did not transfer to special education because of dissatisfaction with mainstream teaching. This is also supported by the responses to Question 14.

Length of teaching in special education (Part A, Question 9)

Table 5.12

Teachers' length of teaching in special education

	Category of Response	Count	Percentage
1	Less than 1 year	4	2%
2	1 - 2 years	16	10%
3	3 - 5 years	46	28%
4	6 - 10 years	51	31%
5	More than 10 years	46	28%

Table 5.13

Supervisors' length of teaching in special education

	Category of Response	Count	Percentage
1	Less than 1 year	5	3%
2	1 - 2 years	4	2%
3	3 - 5 years	19	11%
4	6 - 10 years	55	31%
5	More than 10 years	93	52%

The two groups had both inexperienced and very experienced membership, most being very experienced. As expected the supervisors as a group were the more experienced. The participants in this research were able to answer from a base of experience in special education.

Categories of exceptionality of past special education teaching (Part A, Question 10)

The responses to this question were not statistically analysed because of the large variety of responses. A visual examination of the responses showed that a large number of teachers and supervisors had taught students enrolled in a number of different special education categories. This unexpectedly large response would have been unwieldy in terms of analysis and would not have served to increase understanding of the research findings.

The following questions (Part A, Questions 11 to 32) were asked in order to obtain an understanding of the teachers' and supervisors' future professional plans. It was expected that together they might serve to

increase understanding of the respondents' commitment to special education.

Plans concerning the length of teaching of current category of class or support (Part A, Question 11)

Table 5.14

Teachers' plans to continue teaching current category of exceptionality

Category of Response		Count	Percentage
1	Less than 1 year	29	17%
2	1 - 3 years	51	30%
3	4 - 10 years	50	30%
4	More than 10 years	32	19%
5	Not sure	4	2%

Table 5.15

Supervisors' plans to continue teaching current category of exceptionality

Category of Response		Count	Percentage
1	Less than 1 year	25	14%
2	1 - 3 years	61	34%
3	4 - 10 years	59	33%
4	More than 10 years	24	14%
5	Not sure	5	3%

Approximately half the responding teachers and supervisors planned to move from teaching their current type of class within three years. As most of the respondents did enjoy their special education teaching, it can only be assumed that such a move would be for other reasons. Twenty-nine teachers and 25 supervisors indicated that they planned to move from their current category of class in less than a year's time. Responses to Question 12 below suggest that some planned to move to other special education teaching positions and that others planned to move outside special education. As the questionnaires were completed at the end of the school year, in late November or early December, it is probable that a number of these respondents were already aware of their appointment to a different situation at the beginning of the next school year. A similar number of respondents, however, planned to remain for at least ten years. A few respondents provided an additional category of response, "not sure", and so this was added as a fifth category.

Plans to remain in special education (Part A, Question 12)

Table 5.16

Teachers' plans to remain in special education

Category of Response		Count	Percentage
1	Less than 1 year	10	6%
2	1 - 3 years	36	22%
3	4 - 10 years	62	37%
4	More than 10 years	53	32%
5	Not sure	3	2%

Table 5.17

Supervisors' plans to remain in special education

Category of Response		Count	Percentage
1	Less than 1 year	15	9%
2	1 - 3 years	38	22%
3	4 - 10 years	72	41%
4	More than 10 years	41	23%
5	Not sure	9	6%

Most teachers and supervisors planned to stay in special education for at least another four years. However, more than a quarter of both groups of respondents planned to leave special education within the next three years. It is useful to consider this in relation to both the participants' enjoyment of teaching in special education (Question 5) and post special education plans (Question 13 below). Almost all participants stated that they enjoyed their special education teaching. Only 11% of both the teachers and supervisors were approaching retirement age (55-60 for women; 60-65 for men). Although there is not enough information to make extrapolations with certainty it does appear that a considerable number of participants in the 41-50 age group planned to take early retirement from all teaching and some planned to move into mainstream teaching. It can be conjectured that some who planned to leave teaching altogether as well as some who planned to move to mainstream teaching were motivated to do so because of the stresses and demands of their current teaching situations. It is known that attrition due to workplace

stress is of particular concern in special education (Weiskopf, 1980; Fimian and Santoro, 1983; Billingsley and Cross, 1992; Brownell, 1992).

Post special education plans (Part A, Question 13)

Table 5.18

Teachers' plans following retirement from special education

Category of Response	Count	Percentage
1 Retire	63	38%
2 Mainstream	34	20%
3 Promotion to administrative position	19	11%
4 Employment outside DSE	15	9%
5 Other	2	1%
6 Not sure	27	16%

Table 5.19

Supervisors' plans following retirement from special education

Category of Response	Count	Percentage
1 Retire	60	34%
2 Mainstream	31	17%
3 Promotion to administrative position	28	16%
4 Employment outside DSE	17	10%
5 Other	1	1%
6 Not sure	38	21%

A large number of both teachers and supervisors planned to retire from work when they left special education teaching. This accords with the responses to Question 32 which show that a large number of respondents were in the 41 - 50 and 51 - 60 age groups. As most respondents were women (shown by responses to Question 33), and it is common in Australia for women to retire between 55 and 60 years, the NSW DSE will soon be faced with the challenge of replacing a large number of its special education teaching force. Again a "not sure" category was generated by the respondents.

Reason for entering special education (Part A, Question 14)

It was considered that the responses to this question and to Questions 12 and 13 concerning future plans, might indicate the extent of commitment that was felt towards special education.

Table 5.20
Teachers' reasons for entering special education

Category of Response	Count	Percentage
1 Close relative with a disability	10	6%
2 Employment opportunity	53	32%
3 By chance	41	25%
4 Challenge	33	20%
5 Job Satisfaction	10	6%
6 Philosophy/beliefs	5	3%
7 Child in class with a disability	11	7%
8 Influenced by other teachers	2	1%

Table 5.21
Supervisors' reasons for entering special education

Category of Response	Count	Percentage
1 Close relative with a disability	8	4%
2 Employment opportunity	52	29%
3 By chance	34	19%
4 Challenge	53	30%
5 Job Satisfaction	8	4%
6 Philosophy/beliefs	5	3%
7 Child in class with a disability	13	7%
8 Influenced by other teachers	0	0%

Fifteen categories of response were given for this question, that is, the four listed by the this writer and another 11 generated by the respondents. Some were given by only one or two respondents. These were eliminated so that in all eight categories (four given by the writer and four generated by the respondents) were analysed.

The majority of teachers entered special education because of the reality of employment opportunities in this area of teaching. This would include some end-on students who, having just completed their basic teacher

training, would have been faced with the prospect of joining a long waiting list for mainstream employment. If the responses to Questions 6 and 7 (concerning mainstream teaching) are considered, as well as the fact that the large majority of the respondents were women (Question 33), it would seem probable that another common employment pattern could be some mainstream teaching followed by an interruption to employment, perhaps as a result of family responsibilities such as child rearing, then a return to professional work accepting the employment available, that is, teaching in special education. Vacancies in special education occur with regularity and not all of them can be filled with trained special educators.

The majority of supervisors, by a very slight margin, entered special education because they perceived that it was a challenge. This desire for a professional challenge may also have been part of the reason for seeking a transfer or promotion to their current position of supervisor. However, almost as many supervisors entered special education because of the employment opportunity it presented.

The following group of questions (Part A, Questions 15 to 33) relate directly to the research question. They all concern aspects of training or professional development in special education. These are the factors or contributors to professional development that are examined in Stage 1 of this study.

Formal university training in special education (Part A, Question 15)

This question required a simple "No" or "Yes" response. Almost 60% of the teachers and over 75% of the supervisors had completed postgraduate studies in special education. The figures are higher than the various figures sometimes informally mentioned by senior officers in the DSE. These range from 30% to 60%. It may be that the samples used in this study were skewed in favour of those who were trained (99 teachers and 133 supervisors in response to this question; slightly higher responses to Question 28). If this is so it could have been, in the teachers' case at least, through a process of self-selection. Those teachers who felt the security of having completed specialist studies, these being strongly encouraged by NSW DSE, may have been more willing to volunteer to participate in this study than those teachers without this training. In terms of the research questions this possible imbalance of trained to untrained may actually be

an advantage. It means that a large number of teachers, and supervisors were in a position to consider another factor, training, in their ranking of professional development contributors (Question 29).

Teaching prior to postgraduate studies (answered only by those with formal training) (Part A, Question 16)

Only those respondents who answered positively to Question 15 were required to answer this question. The percentages given are based on samples of 100 teachers and 135 supervisors. Respondents were asked to provide figures (including "0" if applicable) for the length in years of both their mainstream and special education teaching prior to formal training.

Table 5.22

Teachers' number of years of mainstream teaching prior to special education studies

Category of Response	Count	Percentage
1 0 years	27	27%
2 1 years	9	9%
3 2 years	9	9%
4 3 years	9	9%
5 4 years	6	6%
6 5 years	7	7%
7 6 years	6	6%
8 7 years	4	4%
9 8 years	5	5%
10 9 years	3	3%
11 10 years	2	2%
12 11 years	3	3%
13 12 years	3	3%
14 13 years	1	1%
15 14 years	2	2%
16 15 years	1	1%
17 16 years	0	0%
18 17 years	0	0%
19 18 years	1	1%
20 19 years	0	0%
21 20 years	1	1%

Table 5.23
Supervisors' number of years of mainstream teaching prior to special
education studies

Category of Response	Count	Percentage
1 0 years	18	13%
2 1 years	10	8%
3 2 years	10	8%
4 3 years	12	9%
5 4 years	12	9%
6 5 years	7	5%
7 6 years	9	7%
8 7 years	7	5%
9 8 years	6	5%
10 9 years	7	5%
11 10 years	13	10%
12 11 years	1	1%
13 12 years	2	2%
14 13 years	5	4%
15 14 years	4	3%
16 15 years	5	4%
17 16 years	0	0%
18 17 years	1	1%
19 18 years	1	1%
20 19 years	0	0%
21 20 years	1	1%
22 21 years	0	0%
23 22 years	0	0%
24 23 years	0	0%
25 24 years	1	1%

There was a wide spread of mainstream teaching experience, 0 to over 20 years, in both the teachers and supervisors. Based on the responses to Question 14, it would seem probable that a considerable number of those without mainstream teaching experience accepted a special education appointment on graduating from their initial mainstream training as it was the only teaching position available.

Table 5.24

Teachers' number of years of special education teaching experience prior to special education studies

Category of Response	Count	Percentage
1 0 years	59	60%
2 1 year	8	8%
3 2 years	9	9%
4 3 years	2	2%
5 4 years	4	4%
6 5 years	3	3%
7 6 years	4	4%
8 7 years	4	4%
9 8 years	2	2%
10 9 years	0	0%
11 10 years	1	1%
12 11 years	0	0%
13 12 years	1	1%
14 13 years	1	1%

Table 5.25

Supervisors' number of years of special education teaching experience prior to special education studies

Category of Response	Count	Percentage
1 0 years	66	49%
2 1 years	20	15%
3 2 years	12	9%
4 3 years	7	5%
5 4 years	5	4%
6 5 years	4	3%
7 6 years	7	5%
8 7 years	3	2%
9 8 years	4	3%
10 9 years	2	1%
11 10 years	4	3%
12 11 years	0	0%
13 12 years	0	0%
14 13 years	0	0%
15 14 years	0	0%
16 15 years	1	1%
17 16 years	1	1%

As with mainstream teaching there was a wide spread of special education teaching experience prior to formal special education training. Fifty-nine (60%) of the teachers and 66 (49%) of the supervisors who had received specialist postgraduate training had no teaching experience in special education prior to this training, that is, they either entered such

training end-on to their undergraduate training or they entered specialist training from a mainstream position.

Special education teaching since postgraduate studies (answered only by those with formal training) (Part A, Question 17)

Table 5.26

Teachers' number of years of special education teaching following special education studies

Category of Response	Count	Percentage
1 Less than 1 year	4	4%
2 1 - 3 years	28	29%
3 4 - 10 years	36	38%
4 More than 10 years	27	28%

Table 5.27

Supervisors' number of years of special education teaching following special education studies

Category of Response	Count	Percentage
1 Less than 1 year	7	5%
2 1 - 3 years	15	11%
3 4 - 10 years	53	39%
4 More than 10 years	60	44%

The considerable amount of experience of both the teachers and the supervisors meant that most of those who had formal training in special education were also in a position to compare this with their teaching experience as factors in their professional development.

Current postgraduate training (if not yet trained in special education) (Part A, Question 18)

Only 13 teachers and 12 supervisors were currently being trained in special education. As all these respondents were working, it is probable that they were undertaking these studies as part-time students and may have been doing so through distance education.

Study of undergraduate special education units (Part A, Question 19)

Table 5.28

Teachers' study of undergraduate special education unit(s)

Category of Response	Count	Percentage
1 no units	90	54%
2 1 unit	31	18%
3 2 units	21	13%
4 3 units	6	4%
5 more than 3 units	13	8%

5.29

Supervisors' study of undergraduate special education unit(s)

Category of Response	Count	Percentage
1 no units	118	66%
2 1 unit	19	11%
3 2 units	14	8%
4 3 units	2	1%
5 more than 3 units	19	11%

Most of the teachers and an even larger number of supervisors did not study any special education units in their undergraduate teacher training course. In 1993 the NSW DSE introduced an employment policy requiring that new graduates from mainstream training programs, irrespective of their area of teacher training, have completed at least one unit of study in special education. The teachers in this study being younger than the supervisors were more likely to have benefited from this requirement.

Questions concerning DSE recognition of full qualification as a special educator (Part A, Questions 20, 22, 23)

On examination these responses were not considered to be useful and so have not been analysed in terms of frequencies. Although the questions were carefully worded in an effort to avoid misunderstanding and had been pilot-tested, it appears that many of the teachers and supervisors who responded that their teaching qualifications were recognised by DSE as full special education qualifications were not in fact so recognised.

Others seemed to be undecided or confused about the recognition of their qualifications. The writer was aware of the possibility of this confusion, having had experience, in her previous DSE system role, of similar difficulties with surveys. The NSW DSE requires, for full "approval" (DSE, undated) a DSE-recognised one year (or part-time equivalent) postgraduate degree or diploma in special education or a DSE-recognised undergraduate degree largely focussed on special education. Some of the respondents named qualifications that included only a small proportion of special education studies. These would not be recognised as full special education qualifications. The confusion is evident in the differences, although very small, of the number of respondents who reported that they were fully trained in Questions 15, 16, 17, 28 and 29. Responses to Question 15 indicated that 99 teachers and 133 supervisors were fully trained whilst responses to Question 28 showed that 105 teachers and 140 supervisors were fully trained. The writer's careful wording did not overcome the confusion, at least as it applied to a few respondents. She was in no position to *correct* the figures and so accepted those given for each question response.

Attendance at a major inservice special education course (Part A, Question 21)

Seventy-five percent of both the teachers and the supervisors had not attended such courses.

The DSE has conducted a number of major (defined in this study as at least 8 weeks of part-time attendance) special education courses. Most of these have been designed for teachers who had no, or little, formal training in special education but were currently employed in, or entering, this field. As most of the participants in this study had received formal postgraduate training it could be expected that few would have attended these introductory courses. It would seem that some, even most, had no need to do so. It is possible that of those who did attend such a course, some would later have completed postgraduate training and so in relation to the later question, Question 28, concerning their highest training, they would have selected the postgraduate option.

Experience of having been mentored (Part A, Question 24)

Almost half (77) of the responding teachers, but only a quarter (45) of the responding supervisors, had had a mentor in their special education teaching. The higher proportion of teachers with mentoring experience may be attributable to the fact that as a group they were younger and less experienced in the special education teaching service than were their supervisors some of whom may have entered special education when there were few qualified and/or experienced mentors available.

Membership of out-of-school special education associations or groups (Part A, Question 25)

The higher number of supervisors (62%) than teachers (47%) with this type of membership appears to be evidence of the former group's wishing to be professionally involved on a wider front than just the classroom or school. It is probable that such membership assisted in their application for promotion and that it was seen as part of their duties.

Reading of journal articles (Part A, Question 26)

Most teachers (69%) and even more supervisors (80)% said they read journal articles. It is interesting to contrast this with the responses to Questions 29, 30 or 31 in which such reading was not regarded as an important means of professional development.

Attendance at conferences and inservice courses (Part A, Question 27)

Approximately three quarters of both teachers and supervisors attended such courses at least twice a year. Again, as with Question 26 above, this was not regarded, by the respondents as an important factor in professional development.

Highest qualification in special education (Part A, Question 28)

Table 5.30
Teachers' highest qualification in special education

	Category of Response	Count	Percentage
1	Formal training in special education	105	63%
2	Major inservice course	10	6%
3	Series of own efforts	51	30%

Table 5.31

Supervisors' highest qualification in special education

	Category of Response	Count	Percentage
1	Formal training in special education	140	79%
2	Major inservice course	7	4%
3	Series of own efforts	25	14%

More supervisors were trained in special education than were the teachers. A small number stated that a major NSW DSE inservice course was their highest qualification in special education. Some of those who attended such courses may as well have completed postgraduate training. If this was the case they would have entered postgraduate training as their highest training.

The most effective ways of training to work in special education

(Part A, Questions 29-31)

These questions in both the Teacher and Supervisor Questionnaires concerned the respondents' perceptions of the contributing factors to **their own individual professional development**. Both groups completed only one of these three questions depending on whether they had completed postgraduate or full undergraduate special education training (Question 29), had not done this but had completed a major inservice course (Question 30), or had completed neither (Question 31). They had the option of identifying up to five contributors to their own development and were asked to place these in rank order. Not all respondents gave all five rankings. Participants were required to respond concerning only those contributors which they had experienced. Respondents were requested to add contributors if those given were not adequately comprehensive in terms of their own professional development. Only one response was added (see Table 31, Contributor 12).

The results of these frequency analyses are shown in four tables (Tables 5.32-5.35).

Responses to Question 29 (trained respondents)

Teachers' responses

The 105 teachers who had indicated in Question 28 that they had completed a full special education qualification also completed Question 29. Fifty-four of these ranked training built on teaching experience as the most important contributor to their special education teaching. A smaller number of these trained teachers stated that special education teaching experience over time was the most important contributor. Other contributors were not considered as being of prime importance except by a small number of respondents.

Table 5.32

Trained teachers' perceptions of the most effective contributors to their professional development

Category of Response	Count	Percentage
1 Specialist study following >2 years in mainstream education	36	34%
2 Specialist study following >2 years in special education	18	17%
3 Specialist study without prior teaching	4	4%
4 Mentoring	6	6%
5 Full undergraduate specialist training	5	5%
6 Informal discussions with peers	0	0%
7 Teaching experience over time	31	30%
8 Series of short inservice courses	1	1%
9 Major inservice	0	0%
10 Reading journals and books	0	0%
11 Membership association(s)	0	0%
12 Visiting/observing others	4	4%

The analysis of second choice selections showed that 33 of the trained teachers who gave a second ranking considered their special education teaching experience to also be an important contributor. Twenty-seven teachers placed training and experience second and 13 did likewise with mentoring. Other listed contributors received little or no consideration.

Third, fourth and fifth rankings (by progressively fewer respondents) showed teacher training built on prior experience, and teaching experience decreasing in importance (having already been allocated first or second ranking by the large majority of respondents) and the responses to informal discussions with peers and to mentoring (last to a lesser degree) increasing.

Supervisors' responses

Table 5.33

Trained supervisors' perceptions of the most effective contributors to their professional development

Category of Response	Count	Percentage
1 Specialist study following >2 years in mainstream education	67	49%
2 Specialist study following >2 years in special education	27	20%
3 Specialist study without prior teaching	2	1%
4 Mentoring	0	0%
5 Full undergraduate specialist training	11	8%
6 Informal discussions with peers	0	0%
7 Teaching experience over time	30	22%
8 Series of short inservice courses	1	1%
9 Major inservice	0	0%
10 Reading journals and books	0	0%
11 Membership association(s)	0	0%
12 Visiting/observing others	1	1%

Of the 138 supervisors responding to this question 94 placed as the major contributor to their teaching in special education their postgraduate training in special education built on prior teaching experience. Thirty supervisors gave prime ranking to teaching experience in special education. Eleven respondents considered their full undergraduate training (undergraduate training that contains at least the equivalent of a full-time one year study in special education) to have been their major contributor. This type of training is likely to have been more common in the supervisors' background than in the teachers who, as a group, were younger. Full undergraduate training in special education has been in recent years much less common than previously. In all 107 supervisors

identified some form of specialist training as their major contributor. The only other identified contributor was teaching experience in special education.

Of the 118 supervisors who gave a second choice of contributor, 46 selected special education teaching experience. Later selections (third, fourth and fifth) showed an increasing spread over all the non-training and non-experience categories without clearly identifying any as having major importance.

Responses to Question 30 (inserviced respondents)

Teachers' responses

Of the 168 teacher participants in this study only 10 responded to Questions 28 and 30 that they had completed a major inservice course as their highest form of training in special education teaching. It was considered that a sample of only 10 was too small to allow later meaningful analysis.

Table 5.34

Inserviced teachers' perceptions of the most effective contributors to their professional development

Category of Response	Count	Percentage
1 Mentoring	0	0%
2 Informal discussions with peers	0	0%
3 Teaching experience over time	8	80%
4 Series of short inservice courses	0	0%
5 Major inservice	2	20%

Supervisors' responses

As with the teachers only a small number (7) of supervisors identified themselves in this question as having completed a major inservice course as their highest form of professional training in special education. It was considered that such a small sample would not allow later meaningful analysis.

Table 5.35

Inservice supervisors' perceptions of the most effective contributors to their professional development

Category of Response	Count	Percentage
1 Mentoring	0	0%
2 Informal discussions with peers	0	0%
3 Teaching experience over time	6	86%
4 Series of short inservice courses	0	0%
5 Major inservice	1	14%

Responses to Question 31 (untrained respondents)

Teachers' responses

Because these respondents had not experienced full training as special educators and had not attended a major inservice course, their possible responses did not include these two contributor options. Of the 49 respondents 42 placed special education teaching experience as the major contributor to their professional development. Mentoring was selected by five teachers whilst the other possible contributors received either insignificant or nil responses. Table 5.36 shows the weighting of the untrained teachers' perceptions of their prime contributors.

Mentoring and to a lesser extent short inservice courses received a number of second rankings whilst informal discussions with peers and their own professional reading featured more prominently in later rankings.

Table 5.36

Untrained teachers' perceptions of the most effective contributors to their professional development

Category of Response	Count	Percentage
1 Mentoring	5	10%
2 Informal discussions with peers	1	2%
3 Teaching experience over time	42	86%
4 Series of short inservice courses	1	2%
5 Reading journals and books	0	0%
6 Membership associations	0	0%

Supervisors' responses

Only 24 supervisors gave a first ranking to this question with progressively smaller numbers completing the other four rankings. Twenty-one attributed special education teaching experience as the major contributor. Short inservice courses, mentoring, informal discussion and own professional reading received some small acknowledgment in the higher rankings (one to three). Table 5.37 shows the distribution of first rankings.

Table 5.37

Untrained supervisors' perceptions of the most effective contributors to their professional development

Category of Response	Count	Percentage
1 Mentoring	0	0%
2 Informal discussions with peers	1	1%
3 Teaching experience over time	21	88%
4 Series of short inservice courses	1	4%
5 Reading journals and books	1	4%
6 Membership associations	0	0%

Summary concerning the contributors to professional development

Of those teachers and supervisors who were trained special educators, the majority believed that their training, preceded by teaching experience, was the prime contributor to their professional development. It should be noted that the majority of trained respondents were experienced teachers prior to their training and, therefore, could not have responded that training without prior experience was the most effective contributor. A substantial number believed the prime contributor to be special education teaching experience. Of those who were not trained in special education the very large majority believed that their teaching experience in special education was the prime contributor. Responses concerning other contributors did not indicate that these were perceived as being important. Discussions with peers, short inservice courses, mentoring and own professional reading received very small acknowledgment.

The views of teachers and supervisors were in general agreement concerning the contributors to their professional development.

Age of respondents (Part A, Question 32)

Table 5.38
Teachers' ages

	Category of Response	Count	Percentage
1	20 - 25 years	14	8%
2	26 - 30 years	14	8%
3	31 - 40 years	46	28%
4	41 - 50 years	60	36%
5	51 - 60 years	19	11%

Table 5.39
Supervisors' ages

	Category of Response	Count	Percentage
1	20 - 25 years	4	2%
2	26 - 30 years	4	2%
3	31 - 40 years	39	22%
4	41 - 50 years	99	56%
5	51 - 60 years	20	11%

Some respondents felt reluctant to identify their age group. The teachers as a group were younger than the supervisors. Approaching half of the teachers (44%) were 40 years or less whilst little more than a quarter of the supervisors (26%) were in this age group. The majority of teachers in NSW, as in Australia generally, is within the 41 to 50 age range. The average age of the participants in this study was consistent with this.

Gender of respondents (Part A, Question 33)

The majority of both teacher respondents (75%) and supervisor respondents (64%) were female. These figures are not unusual in special education.

Analysis of geographical locations (based on postcodes of respondents' schools)

Analysis of an additional characteristic of the respondents was considered necessary in order to determine if they were geographically representative of the teaching profession working in special education units of three or

more teachers (these generating a special education supervisor). A comparison was made of the numbers of urban and rural schools that were sent questionnaires and then this was compared with the number of urban and rural schools that actually responded to the questionnaires. *Urban* is defined as having a postcode relating to one of the three largest cities in NSW, that is, Sydney, Newcastle or Wollongong. *Rural* is defined as having any other postcode. The following table shows that the schools participating in this study were geographically representative of the NSW DSE schools in which there was a special education supervisor. The ratio of rural to urban schools sent questionnaires was very similar to the ratio of rural to urban schools which returned questionnaires.

Table 5.40

Urban/rural representation of participating schools

Questionnaires sent			Questionnaires received	
	number	percentage	number	percentage
urban	194	55	97	52
rural	161	45	91	48

Summary of frequency data concerning the representation of the questionnaire respondents

Both the responding teachers and the responding supervisors represent the broad range of special education teaching situations in NSW DSE schools with the planned exception of isolated situations. From the figures provided by the DSE (Shearer, 1997), it cannot be known how balanced this representation is as it applies to special education units and schools. It appears that there is some overrepresentation of secondary teachers and some underrepresentation of teachers of students with learning difficulties.

The large majority of respondents stated they were happy in their special education positions even though many entered because of employment opportunities. Many of the respondents said they planned to continue in special education until they retired but a smaller number intended to leave for other reasons. More than a quarter of the teachers and supervisors planned to leave special education within the next three years. Extrapolations of various figures indicate that this is not entirely due to age-related retirement. It can be conjectured that although special

education teaching was considered to be enjoyable the stress of such teaching contributed to a desire to retire early. Most of the respondents were very experienced in special education teaching and some were also experienced in mainstream teaching. Many had received formal training in special education, attended professional conferences and DSE inservice courses, read special education journals and were members of special education associations or groups. The large majority were women and at least 40 years of age.

The participants in this study covered the range of special education teaching situations and relevant professional experiences. They were thus able to provide a varied data set of professional development and characteristics. This then had the potential to allow meaningful teasing out of those factors which are most closely associated with teaching excellence.

Overall appraisal of teaching competence (Part B, Question 23)

In the Teacher Questionnaire this question required the teacher to self-appraise using a five-point Likert scale. Five on this scale was high (appraised as high in performance) and one was low. In the Supervisor Questionnaire the supervisor appraised one of the teachers he/she was supervising. In the majority of cases the appraisal was about the same teacher, that is, the teacher self-appraised and his/her supervisor appraised that teacher. There were 126 such *pairs*. Not all responses that were completed were able to be paired in this way and, in fact, there were 94 *singles*. Pairing is taken into account with later statistical procedures but at this stage of frequency analysis it was not considered. The purpose here is only to depict the spread of appraisal categories.

Table 5.41

Teachers' overall self appraisal using a five-point Likert scale

Category of Response		Count	Percentage
1	Low	0	0%
2		1	1%
3		39	23%
4		89	54%
5	High	26	16%

Table 5.42
Supervisors' overall appraisal of the teachers using a
five- point Likert scale

Category of Response	Count	Percentage
1 Low	5	3%
2	8	4%
3	26	15%
4	62	35%
5 High	62	35%

The supervisors were both more generous and more critical in their appraisals of the teachers. If 4 and 5 are regarded as *excellent* in terms of teaching performance, then the large majority of the teachers were excellent as perceived by themselves and by the supervisors. There is no means of knowing if this degree of competence reflected that of the total NSW DSE special educator competence.