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**RESEARCH AS LEARNING: THE REALITIES OF
ACTION RESEARCH IN A NEW ZEALAND
INDIVIDUALISED LEARNING PROGRAMME**

A thesis presented in fulfilment of the requirements for the degree of Doctor of
Philosophy in Education at Massey University

JENNIFER MARY POSKITT

September 1994

ABSTRACT

The thesis portrays an action research study of an individualised learning programme in a rural New Zealand secondary school. The study considers the nature of action research, individualised and cooperative learning programmes, and the role of innovation and reflection in a school undergoing change. "Achieve", the title of the programme, predominantly encompasses individualised learning although elements of cooperative learning are also included. The fundamental basis of the programme is developing student responsibility for their own learning.

The gap between the theoretical and the practical domains of the programme is exposed with students requiring considerable guidance in the transition from teacher-directed to self-directed learners. Various issues arise in the concepts of learning alone and together, the provision of choices and control, and the role of reflection and innovation in schools undergoing change. Inconsistent practices in developing students as independent learners are only made explicit through considerable observation, reflection and critical discourse.

Action research is the means through which teachers improve their understandings, situation and practices. However, at the outset, few teachers at this school were ready for action research. Reflective skills are activated and extended through a series of staff discussions, centring around observational and interview data. Teachers gradually become aware of inconsistent understandings and practices. With the involvement of an outside researcher their reflective capacities are developed, research comes to be valued and the quest for data stimulates the development of teachers' own research skills, and changes in the school culture. A three part developmental sequence is proposed for the involvement of outside researchers. It entails a progression from practical to theoretical phases.

Various principles and procedures of action research are questioned, among which are: that teachers are ready to and are sufficiently skilled to conduct action research projects, that all teachers are reflective on their practice, and that school cultures are conducive to action research. A tentative theory of readiness is proposed for schools not formerly exposed to action research. The three phases incorporate involvement in a second-order action research study. This enables participants to discern the value and relevance of research, to stimulate interest in and development of reflective research skills, and to develop a questioning inquiry for greater involvement in the research. Thus, a second-order study can be transformed into a first-order action research study, enabling the development of *teachers-as-researchers*.

ACKNOWLEDGEMENTS

The completion of this thesis is attributable to the assistance of various groups of people. Their contribution is gratefully acknowledged.

Firstly, gratitude is extended to the school community of WHS. Their friendly and enthusiastic participation in this action research study resulted in practical and theoretical improvements in the Achieve programme, and numerous theoretical insights which form the basis of the thesis. I am most grateful for students, parents and teachers who willingly contributed their time and thoughts in interviews, surveys, meetings and discussions. Their feedback on the final draft of the thesis was most appreciated. It is hoped that they have learned as much from the research study as the author has.

Secondly, sincere thanks are extended to my PhD supervisors, Don McAlpine and John Codd for their interest, encouragement, challenge and humour throughout the three years of study. Valuable comments and suggestions on the various drafts of the thesis were most appreciated.

Thirdly, I am indebted to family and friends for their continual encouragement throughout the three years of study. Their tolerance and understanding of the frequently 'absent' friend was most appreciated. I look forward to exchanging the computer's company for yours!

Fourthly, thanks are extended to Massey University for the Academic Womens' Research Award during term one of 1994. Release from teaching duties at this time enabled quality and quantity time to be devoted to writing of the first chapter drafts. Without this time such a task would have been extremely daunting.

It is hoped that completion of the final copy is testimony to everyone's valuable support and contribution.

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CHAPTER ONE

INTRODUCTION

INTRODUCTION

Learning as research: the realities of Action Research in an individualised learning programme is based on a study of the implementation of an innovative educational programme in a New Zealand secondary school (hereafter referred to as WHS). The programme, called Achieve, was adapted from another New Zealand school (QHS), in order to address various educational and organisational needs of WHS. Achieve was claimed to address individual learning needs of students who represented a broad spectrum of abilities. This educational challenge, along with a falling school roll and reduced staffing numbers with which to provide a wide curriculum to students, ensured Achieve's general acceptance amongst staff, students and the community. Because the 'general idea' of Achieve was to improve the learning and teaching programmes of the school and involved the school community in implementing an educational innovation, action research was deemed to be an appropriate research methodology. In action research, the 'general idea' refers to a situation or state of affairs that one wishes to change or improve (Elliott, 1991). The initial phases of action research frequently involve the identification and clarification of the general idea or central problem, with deeper underlying problems gradually surfacing. The research process is thus an important and a complex one, as is explicated in the thesis. It involves an examination of the content as well as the research methodology.

ACTION RESEARCH

As a research methodology, action research is intended to support teachers in coping with the challenges and problems of implementing innovations (Altrichter, Posch and Somekh, 1993). It is about the improvement of understanding, practices and situations in which people work. The research process creates an opportunity for group self-regulation which transforms communities of self-interest into learning communities. Action research is "not a natural process for schools" however (Johnston, 1994). Schools traditionally value craft knowledge of teachers above that of academic research (Grimmett and MacKinnon, 1992), since a higher premium is placed on the practical than the theoretical realm. Yet the basic premise of action research is to reduce the gap between the theory and the practice of professionals. Where action research is utilized in schools, teachers tend to focus on immediate classroom management concerns rather than global educational issues (McKernan, 1991), despite the claims of action research being transformative of teachers and theories of education (Carr and Kemmis, 1983).

There appears to be some tension between the emphasis placed on research rigour and responsiveness to the context of the study (Carr and Kemmis, 1983; Elliott, 1985; Altrichter, Posch and Somekh, 1993). School-based action researchers tend to advocate consideration of the context (research validity), while the more academic action researchers seem to give greater emphasis to reliable and accurate research

methodologies. The debate amongst the theorists has led to a reification of the action research methodology at the expense of possible mystification to teachers. Although action research is ideally portrayed in the natural discourse of the participants in a natural setting, it also strives for recognition amongst other research methodologies. Inevitably theorising leads to more esoteric abstraction as researchers endeavour to prove the value of action research as a valid methodology in its own right. The irony is that in so proving its value in the academic journals and refining its principles and procedures, action research can become further removed from the constraints of reality. It can therefore be confusing to developing teacher-researchers who face inevitable compromises in the practice of action research.

Action research endeavours to marry the two worlds of teaching and research, with resultant tensions. In order to develop more critically reflective teachers with deeper and improved understandings of their craft theories and teaching practices, the theory and the practice of action research need to be compatible. Understanding of the realities and constraints of teaching is required concurrently with the rigours of research. This means that teachers must assume the role of learners. Involving personnel outside the normal realm of the school has been one approach to bridging the gap between teaching and research (Elliott, 1985). The practice of outsider-insider relationships is fraught with dilemmas however, such as the inequitable power bases of those with and without research knowledge. Despite the inherent difficulties, successful action research 'partnerships' have been forged.

Nevertheless, much of the reported research seems to have occurred with teachers either experienced in reflection, educational theory, graduate study or action research. The present study occurs in a setting with teachers geographically removed from university contacts and professional networks. Their innovative programme becomes problematic in a context of limited exposure to, or experience in reflection, action research or implementation of innovative programmes. Consequently, the action research initially begins as a second-order study. A second-order study is one in which 'outsiders', frequently university students or researchers, conduct research with the participants. However, no matter how involved they are at the site, outsiders are a step removed from the action. They can observe, reflect on and provide stimulus for insiders to reflect on their own action, but outsiders cannot change the understandings or practices of the insiders. Only participants who are truly involved in the action have the power to transform their new understandings, to change their situation and their practice (the first-order domain). The discourse in action research is generally grounded in the study of two practical domains, that of the first-order domain of the teacher and the second-order domain of the facilitator or outside researcher. Ultimately, the challenge is to empower insiders with the reflective and research skills to become independent of second-order action researchers. This challenge is the underlying subject of the thesis. It culminates in chapter eight with a proposed theory of readiness for action research in which a second-order study becomes transformed into a first-order action research study.

Action research contends with both process and substantive issues however. Before considering the context of the study, it is necessary to introduce the substance, that

is the educational theory which informs the Achieve programme: individualised and cooperative learning.

INDIVIDUALISED LEARNING

Individualised learning programmes are introduced into schools for various reasons, both pedagogical and organisational. In many instances, individualised programmes address the problem of declining school rolls and reduced teacher numbers (Fleming, 1974). In senior secondary schools, declining school rolls jeopardise the availability of subject choices for students and the subsequent pedagogical quality. Nevertheless, pedagogical arguments dominate the rationale for individualised programmes.

Increasing student responsibility for their own learning is the most commonly promoted intention for individualised learning programmes (Neumann and Wehlage, 1993). This intention provides students with a sense of control and self-direction over their learning. The clearest manifestation of this aim is the encouragement of students to determine their own pace of learning. In fact, allowing students to determine their own pace of learning is the most frequently implemented dimension of individualised learning (Kolesnik, 1978). Self-pacing facilitates the likelihood of students learning more deeply and in a particular style most suited to their learning preferences. The accurate determination of learning styles implies considerable teacher skill and time for assessment, factors rarely present in school-wide programmes (Thomas, 1992).

When students develop a sense of control such as that which evolves from determining their own pace of learning, they are more likely to be motivated to learn (Zimmerman, Bandura and Martinez-Pons, 1992). Since students who are more highly motivated tend to expend greater time and effort in their learning with increasing self-efficacy and higher achievements, their learning gains are increased. The ultimate goal is that of improving learning and teaching. The challenge resides in harnessing this natural motivation and allowing students to achieve their potential. Provision of choice is a means of enhancing intrinsic motivation, giving students options and control over their learning (Hattie and Watkins, 1988). Choice concerns the environment in which students learn, approaches to learning, such as individualised, competitive or cooperative structures, preferred students or teachers with whom they work, as well as content of learning. Flexible school organisation is required to ensure that the provision of choice is a reality and not merely rhetoric. The present study explores the notion of choice and its implications for students and teachers. There seem to be various layers of choice with apparent contradictions between what appears as choice and what is, in fact, control.

Choice can be expressed through student goal setting and contract writing. Goal setting formalises intentions and provides a guide to students in setting priorities in terms of time management and direction of learning. It also provides a vehicle for communication between pupil and tutor. In communicating learning intentions, study strategies can be clarified, guidance provided in direction and substance, and informal monitoring can occur. Such conferencing is deemed to be an essential component of

individualised programmes (Waterhouse, 1985), but is frequently neglected due to practical constraints of time and teacher skill.

Although there are innumerable variations on individualised programmes, the more enduring and well-known programmes include the Keller and Dalton Plans and the PEEL Project. The ideals of individualised learning are commendable but the realities of the programmes create significant pedagogical and organisational problems. Considerable staff development is required in the transition from directors to facilitators of learning (Evertson, 1989). These skills encompass monitoring, responding to variations in learning need, styles, preferences, and variable student pace of learning. The timing and duration of such developmental work for both student and teacher is critical to the success of the innovation. Different assessment tasks and strategies are required creating demands on teacher knowledge, classroom management and organisational skills.

Additional resources and time are necessitated. Frequently teachers are involved in the actual design and construction of units of learning, with the concomitant demands of time and skill. Often this time demand is additional to regular teaching commitments. Attention is rarely given to the needs of teachers with programme philosophies customarily directed at student learning needs (Gross, Giacuinta and Bernstein, 1971). At times teamwork amongst teachers is advocated as a means of sharing the workload and expertise, but the success of such a strategy is dependent on an appropriate school culture (Neumann and Neumann, 1993). The features of such a culture are expanded within the thesis.

Students are required to make considerable transitions, some of which are too demanding for many of them (for example, setting goals which require working on a unit of work over several weeks). As mentioned above, motivation, self-discipline and self-direction are key attributes of successful learners in individualised learning programmes. There appears to be some contention in the literature as to whether these skills can or ought to be directly taught to students. Some individualised programmes make the assumption that such skills are acquired by a process of osmosis - through the programme itself or in working alongside other successful students. Although attention is given in the literature to distinctions between individual and independent learning (Talbert and Frase, 1972), the actual translation of such principles into reality seem inconsistent. Teachers' and students' understandings of individual and independent learning seem to be critical to successful programme implementation. It is only through action research, such as in the present study, that such understandings are made explicit, problematised and transformed to more closely match the realities of educational programmes. The WHS development of a critical community open to discourse suggests that the rift between the literature and practice in classrooms can be reduced when teachers' understandings are shared and transform practice.

Without teacher reflection and a disposition to understand practice, social isolation of students can be a perennial problem in individualised programmes (particularly when minimal attention is paid to personal skills, social interaction or time

management skills). After some experience in the programme, students are frequently prone to boredom with the monotony of the programme structure but if too much variation is created, students become confused by contradictory messages, abuse the system or avoid work (Thomas, 1992). Monitoring and conferencing in the detail and frequency required by individualised programmes is often beyond the skills of many teachers and the staffing level capacities of most schools. Teachers at WHS encountered these issues and used both intuitive and reflective measures in endeavours to address the problems. Much of the literature implies that these problems can often be addressed by inclusion of cooperative learning skills as a supplement to individualised learning programmes.

COOPERATIVE LEARNING

Although teachers, such as those in the present study, frequently consider students to be learning cooperatively when they can work alongside one another with minimal disruption or disagreement, a joint goal or product is normally what distinguishes cooperative from individual learning (Johnson and Johnson, 1975). Considerable skills are required such as trust building, ability to listen and communicate, willingness to build upon one another's ideas, leadership, decision-making and establishment of a degree of interdependence and conflict resolution (Lawrence, 1991). Such skills are difficult to recognise and even more challenging to develop in students, although teachers often seem to assume that students automatically acquire them. Johnson, Johnson, Stanne and Garibaldi (1990) recommend analysis of group processing in order to gain insights into ways of behaving more effectively. Various strategies can be taught to increase student awareness and use of cooperative learning skills. However, a primary focus in schools on academic skills, rather than social skills, results in a difficult translation of these principles into practice. Although several writers distinguish various levels of cooperation, such as Bennett and Dunne (1991) who identify eight levels of talk in students' discussion groups (ranging from collective monologues to justified and reasoned arguments), minimal attention is paid to the development of such skills in the regular classroom. Mevarech and Susak (1993) argue that cooperative learning groups benefit from *explicit teaching of requisite skills*, such as social and questioning skills, but again *how* this is done is not made explicit. Some exploration of these difficulties occurs in the present study. The action research process suggests that the underlying problems within individualised and cooperative learning programmes may in fact be the inconsistencies and contradictory understandings that teachers and students have, which affect practice.

Despite the absence of literature exploring teachers' understandings of interpretations of cooperative learning, claims concerning social gains of cooperative learning are prevalent throughout the literature (Johnson and Johnson, 1975; Slavin et al, 1985). The positive motivational impact of peer support on learning is deemed to be a significant factor, particularly when students recognise that their group rewards are dependent on the success of their teammates. Students' self-perceptions of ability (self-efficacy) are claimed to increase following group success in cooperative learning (Nichols and Miller, 1994). It appears that the greater the self-efficacy, the greater

the effort and persistence present, and thus a higher likelihood of improved achievement. Students in the present study seemed to understand this principle intuitively as they most often sought out students of similar ability with whom to work alongside. Cooperative learning is frequently advocated as a feasible means of catering for heterogeneity in the classroom (Cohen, 1994), a problem of particular importance for small schools such as WHS. The positive effects for slower learners seem unequivocal (Nichols and Miller, 1994), but opinion is divided as to the value accorded beyond social gains for more able students. Such controversy is partly attributable to the range of available cooperative learning models. They range from being based on mastery learning and extrinsic group rewards to open-ended problem-solving models. The study at WHS suggests that the controversy is the result of deeper underlying issues, which are explored in the *Emergent Themes*. A major determining factor in the success or failure of cooperative learning is the context of the study.

CONTEXT OF THE STUDY

WHS is a form one-to-seven rural secondary school where students have known one another since early primary school days. The teaching staff is stable with no staff changes in the three years prior to the study. Several teachers taught children of former pupils. The school is considered small with only eleven teachers and a roll of 100 students.

At the commencement of the study WHS had been experiencing a declining roll for some years. There was also felt to be a need to update programmes in order to adapt to new curriculum demands and recent government policy. The change was enhanced by adoption of the Achieve programme, the details of which occur in chapter two. An individualised programme appeared to suit the needs of WHS with a falling roll, the likelihood of a reduced staff and the need to provide a range of subjects to junior and senior students. Student numbers resulted in reduced teacher specialisation, and concomitant teaching in a wider range of the curriculum. Achieve was deemed to be highly suitable since it was based on previously prepared units of work which allowed students to work individually with minimal teacher assistance. Involvement of an outside researcher was viewed as a means of facilitating more successful programme implementation, and possible professional stimulation since WHS's geographical location evoked occasional feelings of professional isolation.

With any change or innovation, difficulties occur in understanding the relevance of the change, in developing ownership, and participating in the change process. The Achieve programme proved to be more difficult to implement than was first envisaged. There were some discrepancies between what the programme was believed to deliver and the actual outcomes. An hiatus existed between the theory and the reality of the programme. Although not originally anticipated by the teachers, adjustments to the school culture were required. More teamwork was needed as well as consensus on school-wide programme decisions. Development in communication, learning and research skills was required by both staff and students. Through a process of action research, improvements in understanding and practices

in the Achieve programme were made possible.

SUMMARY

The thesis provides insights into the value of action research as a viable methodology for implementing and sustaining innovation in schools, while contributing to the literature on research methodology in suggesting a readiness theory for action research. It also endeavours to bridge the gap between the theory and the reality of individualised and cooperative learning programmes.

Because the thesis is concerned with both the content and the process of developing the Achieve programme, it is necessary to understand the literature which informs the learning programme as well as the action research process. The thesis therefore initially separates the content and process for purposes of elaboration and clarification, but later interweaves them. Consequently, the thesis contains an initial focus on the content with chapter two describing the Achieve programme. Chapter three reviews the literature which informs the basis of Achieve, primarily that of individualised and cooperative learning. As the programme is new to the school, attention is also given to literature on reflection, change and innovation. The following two chapters (four and five) focus on the theory and application of action research. Finally, both the content and the process are intertwined in chapters six to eight which portray the cycles of action research at WHS, emergent themes and a proposed readiness theory for action research.

CHAPTER TWO

DESCRIPTION OF THE ACHIEVE PROGRAMME AT WHS

INTRODUCTION

The purpose of this chapter is to describe the Achieve programme, around which this action research study is based. A background to the programme provides the context of the school setting and the rationale for the school's adoption of this largely individualised learning programme. Choice is a central principle which is expounded in relation to topics of study, pace and order of learning, level and location. The final description relates to the units of work and the organisation of Achieve.

Because this chapter is integral to the following chapters, reference is made to associated themes throughout the thesis.

BACKGROUND OF THE PROGRAMME

1. Context of the School

WHS is a district high school¹ situated in a rural province of New Zealand. The school had a roll of 100 students and 11 fulltime staff. Numbers of students at each form level varied from 9 to 20. Due to the small size of the community, teachers were familiar with the families and home situations of most students. The school population was 45% Maori. Although most of the students lived in the small rural town of W, a small proportion of the students were bus pupils from surrounding farming areas. The teaching staff was stable for several years, with the most recent arrival three years previous to implementation of Achieve. Because of WHS's relative isolation, visits from other education professionals were infrequent. Having a university researcher involved in their programme was a novelty for teachers and students alike.

2. What encouraged WHS to adopt the Achieve programme?

Achieve was an innovative programme adapted from another New Zealand school, QHS. (The writer was involved as a researcher in the implementation of Achieve at QHS during the two years prior to research beginning at WHS). As a result of WHS's declining roll, fewer teachers were able to be employed which threatened the availability of subject choices for the senior students. An alternative programme was sought. Such a choice was precipitated by a school review report of the Education Review Office². The principal and assistant principal originally learned of Achieve at a 1991 Principals' Conference. After establishing contact, the principal and deputy

¹Catering for form one to seven students; aged 11 to 18 years

²This is a Central Government 3-yearly assessment requirement.

principal attended an Open Day at QHS in July 1991. Later in 1991, all of the staff visited QHS during a Teacher Only Day in order to observe the programme.

According to interview data (March 1992) teachers had a variety of perceptions as to why the school had adopted the programme:

- * Achieve's suitability for their small student numbers;
- * belief in the new programme's involvement of students in directing and enhancing their own learning;
- * accommodation of the broad ability range of their students;
- * improvement of school image (in competition with other schools and to win back students from private schools).

Although almost half (4/10) of the teachers were uncertain about the reasons for the adoption of Achieve, the programme was generally thought to address organisational and learning needs.

WHAT IS ACHIEVE?

1. Nature of the Programme

Achieve is a New Zealand grown educational programme. It is primarily an individualised programme based on student choice. Although the programme has many similarities to those overseas, for instance the Dalton Plan (Rohrs, 1992), the Keller Plan (Daly and Robertson, 1980), and other individualised programmes (such as Talbert and Frase, 1972; Fleming 1974; Davies, 1978, Baird and Mitchell, 1986; Zimmerman, Bandura and Martinez-Pons 1992; Corno, 1992; Gardner, 1993), the interesting aspect of Achieve is its intention to cater for all ability groups (not only gifted or slow learners), mixed age groups and cooperative learning. At WHS students were on Achieve from form 2 to form 5 (year 8 to year 11). The form one, six and seven students were not on Achieve however.

Achieve was premised on choice. Theoretically the students had choice over topics studied, pace, level, order and location of learning. These five dimensions of choice are briefly described.

Topics Studied

Achieve was based on the four core subjects: Mathematics, Science, Social Studies and English. Although the National Curriculum had clear guidelines, particularly in form 5, there was some choice in the topics studied in each curriculum area. The students were provided with a menu which outlined the skills or broad themes that needed to be studied. Within the themes, considerable choice was available in Social Studies, some selection in English, and no topic choice in Mathematics or Science. (Choice was given on additional extras or simpler units for less able learners). An example of choice in English was that students were required to complete a unit in each skill area, (reading, writing, comprehension, speech writing, poetry, journal writing) but the choice of topic content was the student's responsibility.

Pace of Learning

According to the philosophy of Achieve, students learn best when they can determine their own pace. This concept allowed faster learners to make quicker progress while slower learners could take the time needed to understand and complete a unit.

Determining one's own pace applied to subject periods as well as the week(s) the unit consumed. Variable finish times and dates were a natural outcome.

Level of Learning

Each subject area originally aimed to have individualised programmes for all students. Initially however, teachers were concerned with establishing the programme and, for some, providing a range of topics within their subject responsibilities. An example from the first round of teacher interviews illustrates teachers' concerns to target units for the 'average' student.

Teacher interview 16/3/92

"I decided to do a basic plan first. I just wanted to get the year prepared ... I have only prepared one module for each particular section of work we are doing so I've only prepared for what I've considered to be the bulk of our students. I'm not prepared for the more able, although there is extension work in some of it. So there is a lot more work to come in there."

The energy and effort that unit writing demanded resulted in few multi-level units being devised. Although mathematics provided choices within the unit (ie additional practice where students or teacher deemed benefits could accrue, or sections that could be omitted where student understanding was clearly evident), and English provided some research questions at which students could design work at their own level, most units were pitched primarily at the 'average' child. Consequently, in practice, units of work were not individualised.

Concern emerged from researcher observations and teacher interviews (March and August 1992) about the slower learner, in particular those students who were experiencing difficulty with the vast amount of reading that written units necessitate.

Teacher interview 16/3/92

".. Third form for instance, there are three very slow children who cannot cope. So, I am going to have to redesign things for them to do."

Teacher interview 16/3/92

"The main thing that I haven't done and it's something I'll have to do is prepare some units for the slow learners. Because I have done them all exactly the same and there are a couple pupils in that class that are really slow. They have got reading ages of probably about six and they are finding it quite hard and it's my fault in a way because I have just aimed it at everyone."

Partial resolution of the problem came in the form of Correspondence units for these

students.³ Few alterations were made for the more able students, except for the freedom to complete more work or to begin on the next year's syllabus ahead of time. Considerable attention was devoted to the problem of different ability levels in staff meetings and was addressed in Staff Development days in term two of 1993.

Order of Learning

Students decided on their own programme of work each day. Decisions were based on daily bulletin notices, which notified students of set (compulsory subject) classes, special events (such as visitors), occasional work deadlines, or extraordinary events. Aside from such requirements, students referred to room and teacher availability timetables and selected their subject choice accordingly. They were provided with guidelines as to how many periods per week ought to be devoted to each curriculum area, but could choose the timing of those subjects.

Student interview data revealed student tendency to work with particular friends (and hence joint timetable decisions were made), in preferred classrooms (either for the classroom ambience such as the degree of freedom to talk with friends, noise levels, warmth, or teacher personality), and in relatively set patterns. Instead of school or teacher imposed timetables, students set their own which showed remarkable regularity from week to week.

Three interview extracts indicate the frequently cited reasons for student timetable decisions:

F3 girl 30/3/92

"What I feel like doing so I get enough done of every subject. I mostly work in the library, depending on which teacher is in there."

This brief extract highlights the importance of mood for students' subject choice and indeed the quantity of work achieved.

F4 boy August 1993

"It's habit really. You get with your mates, who know about a subject and then it's easier and more interesting. It's hard to motivate yourself on your own."

Peer pressure and influence was another dominant factor for many students' decisions. Similar groupings of students were seen in particular rooms each week. Adhering to a weekly timetable made it more predictable for meeting up with students with whom they preferred to work. Preference for working with particular teachers influenced the decisions of some students. Student-teacher conflict was reduced in the Achieve programme for students could elect to work with the teacher whose individual teaching style and personality most suited their learning style.

³The Correspondence School is a national body which creates units of work for students who are physically isolated, have social difficulties or for whom learning needs cannot be met by the school.

F4 girl 30/3/92

"If I am behind I put in pencil what I want to do before that day. I check period one what my friends are doing. Then I might do two periods of Science and then do other subjects at home. I do more work at home."

Advanced planning was demonstrated by only a few students. Deadlines were a double-edged sword: they helped students prioritize work completion, but they also removed student freedom and responsibility. Double periods of a subject were permissible but rarely seen.

A myriad of factors subsequently affected student learning choices. Although some curriculum areas such as Social Studies were flexible, other subjects such as mathematics and science required prerequisite learning to occur. This ordering of skills required topics to be studied in sequential order. Students, therefore, had little choice in these curriculum areas. Greater choice of the order of unit completion was available in English and Social Studies.

Location of Learning

As intimated above, students were given choice of study location. Consequently, students could elect to study maths in an 'English' room, Social Studies could be studied in the Science laboratory, and other combinations were possible. Science experiments necessitated attendance in the laboratory, but the greater incidence of set classes effectively reduced student freedom to choose classroom location. Set classes (sometimes referred to as 'teacher-directed') were teachers' requests to see a particular subject form level, such as form 3 mathematics. Because teachers were allocated a particular 'subject' classroom, whenever set classes were decreed, students were required to attend that room at a designated time. Students' reaction to such orders is examined in the *Emergent Themes* chapter.

There was potential for considerable freedom and choice for students in the Achieve programme. Maintaining such choices proved to be problematic and became a major emergent theme.

2. Units of Work

In each curriculum area, students were guided in their study by units of work. The overall plan of work was provided on a menu from which students selected topics to fulfil skill requirements. The topics were known as units of work. Units were generally a collection of photocopied sheets stapled inside cardboard folders. Thus, in form three Social Studies students were required to study a large New Zealand city. Instead of the teacher selecting a city which all students studied, as in a conventional classroom, students at WHS had a choice of studying either Wellington or Auckland. Within the units, students could choose various options, such as occasionally between a construction, illustration or written activity.

Unit writing

Teachers found unit writing very demanding. Although they had a six month lead-in

time to Achieve which resulted in many of the preliminary units being written prior to commencement of the programme in 1992, unit writing was a necessary aspect of teachers' lives in the early days of Achieve. Teachers stated that they found the task easier with experience, but never seemed to find the time to revise former units. These points are illustrated in the following interview extract.

Teacher Interview 16/3/92

"Last year in third term we met in the library every Tuesday to work together on planning programmes. We would all work until about 4.30pm, but writing units took up my holidays - Christmas vacation. It took three to four weeks vacation time sitting, solidly writing units. The photocopying takes a long time and stapling the booklets and designing the covers and all that. You have to make it attractive to sell it to kids. I'm glad I did it in the holidays because you just don't have the time to prepare these things, you would have to do it at home."

Staff development was forthcoming on unit writing, but not until July 1993. Potentially students could choose more challenging or less demanding units according to their ability.

3. Organisation of Achieve

Tutor groups

Students throughout the school were allocated to particular tutor groups. These groups consisted of approximately twenty students each, comprising forms one to seven. Tutor groups met twice daily, (except Mondays and Thursdays due to afternoon school assemblies), once for the 'morning tutor' of 20 minutes and once in the afternoon for a 15 minute tutor. The morning tutor was a time of reading the school bulletin (notices), students completing their daily planning, tutors signing the planning and responding to any notes written on the previous day's planning by parents, silent reading, continuation of work from previous periods, or social conversations amongst students or between individual students and the teacher.

Tutors were responsible for on-going monitoring of students, a point which is discussed under the section on monitoring. Pastoral care, mixing of different form levels, planning and organisation were the myriad purposes of these tutorial groups.

Room and teacher timetables

As the school had experienced a falling roll over a number of years, teachers were either the sole teacher in the subject area or were responsible for more than one subject area, for instance the physical education teacher also taught form 4 Social Studies and form 5 Geography. This situation resulted in subject teachers not being available every period. Students therefore had to consult teacher and room availability when drawing up their timetables. Rooms for which a teacher was not available were locked.

For at least one period per week each teacher was allocated 'roving duty'. This duty

obliged the teacher to circulate the allocated Achieve rooms to find the room containing the greatest number of students present. The teacher then assisted the subject teacher with supervision or individual student teaching. With students determining their own subject choice, there were times at which certain rooms were virtually empty while other rooms were full to capacity. On these latter occasions, if desks were not available, teachers were compelled to encourage late arrivals to change rooms. This decision required teacher signatures on the planning book, for reasons outlined in the discipline section below.

Monitoring

Students were monitored on three dimensions: planning and organisation, behaviour, and learning. During tutor time students planned their day. Planning involved deciding what subjects to do during each period (apart from compulsory sports and physical education sessions), and the room number in which the work would be done. Once these decisions were made, students needed to indicate the topic and as far as possible, the task to be undertaken.⁴ Once this planning was complete the tutor teacher was supposed to check for subject balance, whether in fact the teacher or room was available at the selected time, that the student had recorded sufficient detail to imply goal setting and facilitate teacher monitoring of completed work.

Each period the student lay the planning book open on the desk beside him or her. The teacher normally circulated the classroom at the beginning of the period to ensure that the student was:

- * prepared with the necessary equipment or understanding to accomplish the task;
- * working on the subject and activity outlined in the planning;
- * studying in the room indicated on the planning.

The teacher usually continued to circulate the classroom during the period, fulfilling a number of duties:

- * ensuring that the students stayed on task;
- * reducing disturbance from other nearby students;
- * gathering equipment or material where necessary for student task completion eg chemicals in Science;
- * talking with the student to discern understanding of the subject matter;
- * explaining areas of uncertainty or new learning;
- * helping students to interpret a unit activity or question requirements;
- * answering student questions;
- * reviewing the amount of work accomplished in that period, unit or subject overall;
- * returning (and discussing) test results, assignment work;
- * stimulating student interest in or understanding of the topic;
- * encouraging students with longer term planning;
- * motivating, supporting and encouraging students;
- * intervening, when necessary, in student social conversation or off-task behaviour;
- * stimulating a spontaneous group or class discussion.

⁴An example of a planning page is found in Appendix A.

Towards the end of the period, the teacher again circulated all students primarily to sign their planning books. This signature verified the student's attendance in the classroom during that particular period and student attention to the stated work. A column in the planning book allowed teachers the opportunity to comment on student behaviour, work habits and accomplishments, or to communicate generally with the parent or caregiver. The student was expected to show the planning book to the parent at least once a week. The parent's signature was required to certify that sighting had occurred. Such a procedure was designed to stimulate interest and communication in schoolwork between child and parent.

Staff meetings devoted considerable attention to student monitoring. At least six-weekly, staff met to complete assessment sheets on every pupil in Achieve. Staff conferred and graded the student's ability to complete work, work independently, seek assistance, meet deadlines, interact with the subject teacher regularly, maintain a positive attitude, display acceptable conduct and effort. Staff discussions ensued over students who had made pleasing progress or those over whom staff had concerns. At times, concern with a particular student seemed teacher or subject-specific, at other times staff discussion attested to widespread teacher concern. Monitoring became a concern of teachers, students and parents, the subject of discussion in the chapter on the *Five Cycles of Action Research in the Achieve Programme*.

Discipline

Discipline was both a covert and overt phenomenon. It was a dimension of control, a topic explored in the *Emergent Themes* chapter. Nonetheless, its relevance here concerns constraints placed on students to ensure school progress. As noted above, students were monitored each period, week and six-week intervals (along with conventional school reports and parent-teacher interviews). Student attendance was checked each period by a 'runner', a student who carried the school roll around each classroom and either s/he or the teacher marked the checklist of the students present. Absences were collated and tutor teachers notified the next day.

For unexplained or unjustifiable absences, the student served time in 'retraining'. Retraining occurred each morning interval, with teachers rostered on a rotational weekly cycle. During this punishment time students undertook a range of tasks, often writing lines, or completing other schoolwork. Other behaviours which could incur retraining were failure to have teacher or parent signatures on one's planning, incomplete planning, incomplete work and classroom misdemeanours such as being impolite to teachers. The planning book could be used for communicating with parents, thus avoiding situations becoming unmanageable. Where necessary, parents were called in to meet with staff, often with the student present.

Term meetings - Action Research

Each term the writer observed in classes, interviewed students and teachers and on occasions, conducted surveys and tests. Staff meetings were devoted to reflection on and discussion of resultant feedback reports. Such reflection was pivotal to action research and programme improvement. Details on these processes occur in chapters

six, seven and eight.

SUMMARY

This chapter has briefly described the Achieve programme. Background information indicated the reasons for adoption of Achieve at WHS. The school's small size, declining roll and broad range of abilities were the predominant contributing factors. Although Achieve was theoretically an individualised programme, some indication was given here of the practical constraints which resulted in initial units being designed for the 'average' student. Student choice was the central principle of Achieve and was realised through the timetable, pace and order of learning, limited choice of topics, location of learning, and people with whom to learn. Description of the units of work, the heart of Achieve, intimated teacher demands and resource constraints. Teachers required a variety of monitoring skills at different phases of the period, day (tutor time), and at teacher meetings to meet monitoring and discipline requirements.

Although the Achieve programme has been portrayed in a straightforward manner, the realities and complexities of school life caused continuous modification to the programme. Tensions arose between the ideals and the realities of the educational innovation. The vehicle for such changes was that of action research. The thesis explicates these action research dilemmas and substantive debates, but it is necessary to firstly consider related theory of the substantive content. The discussion now turns to review related research of the substantive aspects of the Achieve programme.

CHAPTER THREE

REVIEW OF RELATED RESEARCH

INTRODUCTION

The thesis involves the integration of substantive and process issues in portraying the development of an individualised programme, using an action research methodology. The methodological processes are the content of two following chapters. The review of related research therefore, focuses on the substantive issues related to the nature of the innovative programme, Achieve. Consideration is given to the notions of individualised and cooperative learning, innovation and reflection. All of these themes are interwoven throughout the substantive and procedural sections of this thesis. What this review reveals is that individualised programmes are frequently instigated for political and economic reasons, as much as for educational improvement. It is apparent that rarely are individualised programmes fully implemented in ideal circumstances. As time progresses, compromises are made. These compromises are generally made from want of resources and teacher development. The reality of life in schools results in teachers having inadequate time to provide individualized educational programmes, so that pacing is commonly the only real individualisation provided for students. Although goal setting is recognised as being critical for student ownership, and indeed for instilling and promoting motivation, frequently the process is usurped by teachers. Often teachers usurp control unwittingly, due to inadequate skills in imparting knowledge to students but also because they lack the time and skills for essential monitoring. Students lose control over their learning, goals are subsequently unrealistic, and students experience failure, frustration and lose motivation for learning. Teachers' management skills come to the fore, and educational pursuits become of lesser importance.

Although cooperative learning is deemed essential for student social development, and indeed for enhancing motivation, it is frequently neglected as an integral component of individualised programmes. Teachers become uncertain about the apparent contradictions in the intent of cooperative and individualised learning schemes. Rather than integrating the strengths of both approaches, independent learning programmes tend to rely on only one method. Since it is difficult to accurately assess and cater for multiple individualised educational plans, teachers are advised to utilize a myriad of teaching and learning approaches. Students taught how to learn, regulate and control their own learning are those most successful in individualised programmes, regardless of academic ability.

The manner in which teachers address students' learning concerns, the academic and social environment, and incentives for learning affect students' motivation for learning. Long term learning is dependent on motivational strategies, although the successful use of these requires considerable teacher skill and rapport building with the student. Teachers' perspectives on learning and control of learning will determine the actual approach used. Only under conditions of reflective practice will teachers understand and improve their practice of sharing control of learning with students.

Teacher participation in innovation decisions and management support are critical organisational components. Time, teacher development, regular discussions and reflection periods are essential for successful implementation of innovative programmes. Indeed, it is argued in the thesis that it is the reflection on this body of literature that is crucial for successful innovation. The literature on individualised and cooperative learning is insufficient as an isolated research base; it must be critiqued and adapted to be of value to the community of WHS. Action research is the vehicle for translation of this knowledge into practice. As the Achieve programme embodies a complex combination of educational theory, understanding of its implementation also requires a consideration of action research. This dimension is the subject of two subsequent chapters. In the meantime a focus is required on the educational theory which forms the basis of the Achieve programme. This chapter therefore gives attention to the substantive elements of individual and cooperative learning, innovation and reflection.

NOTIONS OF INDIVIDUAL LEARNING

Individual, independent and self-directed learning are terms frequently used for programmes in which students are encouraged to take more responsibility for their own learning. This section of the chapter examines the various definitions and rationale involved in individual learning, and examines several examples of individualised programmes in USA, Britain and Australia. Consideration is then given to various components of individualised programmes:

- * goal setting/contracts;
- * monitoring;
- * autonomy and control;
- * problems and issues in individualised programmes.

Definitions and Rationale of Individualised Programmes

There are innumerable definitions of individualised learning programmes. Gagné (1971: 25) offers an insightful definition:

Learning is an *individual* act, a set of events which takes place entirely within the learner. In fact, it is a highly idiosyncratic event, and depends very much on the nature of the learner, particularly on his (or her) own past learning.

Gagné implies that all learning by every person is in fact individualised for only the individual can learn for him or herself. Such a definition is in accord with cognitive theory in which the individual 'constructs' rather than 'absorbs' knowledge. In other words, learning is an active, not a passive process. A given situation will stimulate different learning in quantity and quality for each person present; hence formerly standard curricula and teaching methodologies suited some students well, while failing others. Acknowledgement of individual differences and varying learning styles is inherent in individualised programmes. Ideally the content and the process of learning are adjusted to individuals; a factor neglected by Gagné.

Adjusting to individual preferences is implied by Esbensen (1971: 268):

Individual instruction includes whatever arrangements make it possible for each student to be engaged at all times in learning those things that are of most value to that **individual**.

Esbensen (1971) argues that the basic thrust of individualised instruction is toward promoting development of self-directed learning and teaching students effective decision-making. This concept implies the importance of giving control and direction of the learning to the student. However, students have varying readiness needs, many of which need to be addressed prior to functioning as independent learners (the subject of considerable attention later in this section).

According to Esbensen (1971), there are three levels of meaning in individual instruction, which involve differentiated pacing, materials and objectives. He argues that the most widespread form of individualisation has to do with the *differentiated pacing* of instruction. In this type of programme the goals and the materials of instruction are the same for all students but the speed at which they proceed differs, depending on their various abilities. This definition is most akin to that used by the teachers and students in the Achieve programme.

On another level, materials of instruction can be varied, so for example, poor readers receive information on audio tapes. The *mode* of instruction is therefore individualised. Thirdly, *varying the goals* of learning and subsequently the sequence of instruction is another dimension of individualisation. These latter two levels require considerable monitoring and diagnostic assessment of learning if they are to be successful.

There seems therefore, to be two dimensions to the concept of individualised learning - the learner and the teacher (or facilitator of learning). A more comprehensive definition of individualised learning which includes these complementary dimensions is stated by Howes (1970:76), cited in Eshel and Kurman (1990:1):

Individualisation - in which a person can investigate and discover for him (her)self; a mode of teaching which increases learner direction and control; and management procedures and arrangements which match individual development with larger and larger amounts of self-reflection, self-guidance and learner responsibility.

The relationship between the learner and the teacher is seen as pivotal here; as well as the nature and management of learning. The control of and responsibility for learning that normally resides in the teacher, is imparted to the learner in this definition. The learner in individualised learning is central, not the teacher, and hence it is often referred to as student-centred learning. The learner selects topics of interest and determines the direction of learning. Once the student has learned to take control, to be self-guided and responsible for investigating worthwhile learning, s/he has become an independent learner. An independent learner has acquired the

necessary skills to work apart from the teacher, and with whom contact is initiated by the student at times of **learning** need. Individual learners, in contrast, work alone, but with frequent interaction with the teacher on both **management** and **instructional levels**. Independent learning is thus a higher level of individualised learning. It is synonymous with self-directed learning. Knowles (1986:40) cites Dressel and Thompson (1973:1-7) in defining independent study as:

the student's self-directed pursuit of academic competence in as autonomous a manner as she is able to exercise at any particular time... We prefer the term independent study as describing an ability to be developed in some measure in every student. It means motivation, curiosity, a sense of self-sufficiency and self-direction, ability to think critically and creatively, awareness of resources, and some ability to use them.

Helping students attain independent learning skills requires optimum learning and teaching conditions; the subject of later sections in this review. Educational ideals have not been the only catalyst behind the popularity of individualised programmes. According to Beckett (1981) the impetus behind individualised programmes in England was the phenomenon of declining school rolls, while Waterhouse (1985) argues that criticisms of spoon-feeding and over-teaching led to the rise of concepts related to responsibility, rationality and authenticity in supporting individual programmes. A combination of educational aspirations, political and economic forces contributed to the growing trend in the UK towards self-support programmes during the early 1980s.

Therefore, the rationale underlying individualised programmes involves relinquishing control of learning to students, so that they are motivated to pursue learning of greatest self interest and relevance, at an appropriate pace, direction and style to result in effective individual learning. An understanding of the process of developing individual learners and ultimately independent learners is vital to effective teaching. The significance of understanding this developmental process appears to be neglected in the literature, for it is not only the students but also the teachers who need to evolve in individualised programmes. Particular demands of the context and the needs of the school community can only be met through a process of reflection and critical discourse on the literature and critical awareness of the process of change. Constraints in reality determine numerous forms of individualised programmes. It is important for teachers of individualised programmes to be familiar with the educational theory informing similar programmes to their own, provided they realize that effective innovation requires adaptation, not merely adoption. Through examining the features of other individualised programmes, such as those below, the rationale for their own programme is strengthened and challenged, and appropriate modifications to practice can be made.

Examples of Individualised Programmes

The Dalton Plan

The basis of the Dalton Plan is *students'* interests and the belief that at least partial

control motivates students to learn. It is thus student-centred, self-paced and individualized by means of monthly contracts (Edwards, 1991). Students are able to choose subjects for the day and the timing of those subjects, facilitated by frequent teacher monitoring. Students are free to spend additional time in their favourite subjects or work ahead and thus graduate earlier from school (Edwards, 1991:400). The Achieve programme has many fundamental similarities to the Dalton Plan, such as self-pacing, student planning (contract writing) and elements of choice.

However, the Dalton Plan's fundamental weakness is its reliance on written assignments. To some extent this weakness could be addressed by increasing the opportunities for cooperative learning. Inclusion of some cooperative learning is seen in the Keller Plan.

The Keller Plan

Like the Dalton Plan, the basis of the programme is to allow students to work at their own pace through a series of instructional units with students achieving mastery at each step. The Keller Plan is not solely dependent on written units of work. Lectures are frequently used as motivation, and tutoring is given during marking. This strategy is employed to address concerns of student motivation and boredom. The marking time is an opportunity to conference with the student in order to enhance personal and social aspects of the student's learning (Daly and Robertson, 1980), particularly in providing pacing guidelines. Mastery is a key concept however, for unit perfection is required before a student is allowed to advance. Mastery is facilitated by the self-pacing nature of the programme, resulting in students advancing at a rate commensurate with their ability and other demands on their time. However, formation of a 'catch-up' group, in which a teacher provides intensive tutoring, is a means of ensuring slower workers keep up to schedule.

Although the existence of this catch-up group and time schedule made nonsense of the claim it is a totally self-paced system, it is essential in order to avoid the high drop-out rate reported in some of the American literature. (Daly and Robertson, 1980:12)

Daly and Robertson (1980) acknowledge that students require a certain amount of self-reliance and maturity to operate the scheme successfully. Romiszowski (1982) claims that with insufficient tutor guidance and control, procrastination is quite common in groups working under this plan. The role of the teacher is critical; changing to that of facilitator, trouble-shooter, resource manager, observers and recorders of progress (Daly and Robertson, 1980). Students need constant reassurance and feedback, and teachers frequently find that students take substantially longer to complete a unit than they do under normal teacher direction.

These details are of relevance to the Achieve programme, for WHS teachers encountered similar difficulties and trialled various measures, such as teacher-directed classes in order to address concerns of student motivation and boredom. Like the Keller Plan, the changing nature of the teacher's role and the individualised needs of students' needs necessitated a *process* of modification to the Achieve programme, as

detailed in chapters six and seven. The Keller Plan paid limited attention to the process of learning however. The next project considers this subject.

The PEEL Project

PEEL (Project for Enhancing Effective Learning) was devised in Australia. Its focus is on discovering more about the process of learning in the hope of developing more effective and independent learners. As with the above cited individualised programmes, PEEL strove to encourage learners to make decisions about their learning, and to encourage students to become aware of their own learning processes. Metacognition was a fundamental basis to the programme with knowledge, monitoring and controlling one's own learning as basic tenets (Baird and Mitchell, 1986). The project intended students, "to be responsible for their own learning, become independent thinkers, reflect upon and see how units of work relate to each other..." (Baird and Mitchell, 1986:34).

However, despite the use of an action research approach, there were evident student and teacher barriers to change:

Students were: "unfamiliar with situations which require active, independent thinking, they did not accept that more and better thinking would lead to better performance and had conservative views about the range of acceptable teacher behaviours and classroom activities." (Baird and Mitchell, 1986:83)

Students needed to adjust their thinking about learning as a consequence of the PEEL activities. Some problems in classroom management were experienced, along with student reluctance to ask questions in fear of appearing stupid in front of their peer group. Fear of questioning was also an initial problem for students in Achieve, but as acceptance of the programme grew, the student culture changed to allow questioning. Teachers needed to undergo considerable change (facilitated by an action research approach), in order to adapt to this different approach. Teachers in the PEEL Project, as in Achieve, valued the opportunities that action research created for professional development and new perspectives on teaching and learning.¹ The importance of teacher in-service and development in implementation is emphasised in the Canadian experience which is now discussed.

Other Individualised Systems of Learning

Canada has also seen the prevalence of individualised programmes, particularly during the 1970s. As with the Dalton and Keller Plans depicted above, the basis of the programmes is student choice in designing their own timetables. The flexibility readily incorporates students taking courses at different difficulty and year levels. Increasing student participation in decision-making, particularly in selection of courses was seen as promoting motivation in learning and increasing a sense of control over the students' own education (Fleming, 1974). The courses were structured to emphasise inquiry, synthesis and evaluation, rather than lower-order recall thinking skills. Another component of the programmes was cooperative planning and

¹Further comment is made about the process of change in a later section on innovation.

evaluation of programmes for professional development of staff.

For many teachers the philosophy of the individual system was unclear for translation into practice. Adequate opportunities were needed for in-service training:

There is a need to ensure that teachers have an opportunity to explore and understand the full implications of the philosophy of individualisation... It involves a full and complete acceptance of each student as a unique individual with his or her own drives, goals and interests. It involves a recognition that s/he must be understood and treated as an individual rather than as a mere unit in a mass... there can be no true learning without a personal commitment... (Fleming, 1974:18)

Teachers therefore, needed a new way of operating; from whole-class teaching to a focus on individual students. Problems were evident: the frequent inability of students to use their freedom responsibly, the increased workload in curriculum and student evaluation, problems with timetables, the challenge of individualising instruction and a lack of adequate facilities or materials (Fleming, 1974). Individual timetabling appeared to increase students' feelings of alienation, isolation and loss of group identity. Teachers were concerned at times about the lowering of educational standards and control of students. These problems are seen to be common themes in most individualised learning systems, as well as Achieve.

Where teacher in-service had been minimal, changes were superficial. Teachers required considerable collegial support to modify practices and become facilitators of learning. On occasions where the principal appeared to offer negligible assistance, staff were not motivated to implement changes in their practice. The reality of school life resulted in individualised systems being substantially modified by former practices and in actuality having limited implementation. These points are verified in the current (Achieve) study, as is depicted in later chapters.

Although the potential value of individualised programmes is inspirational, problems inherent in its implementation and practice are a cause for concern. Attention to fundamental principles and components of individualised learning programmes can expand the knowledge base for teachers, but it does not necessarily enable them to translate these principles into practice. It would seem that only through a process of critical reflection and discourse, as in action research, can a closer link be made between the theory and the practice of individualised learning. With this caveat in mind, it is pertinent to consider the theory underlying individualised learning, as a basis for developing teachers' understanding and rationale for their practice. Review of the related research reveals the following components: goal-setting and motivation, contract writing, monitoring, autonomy and control, as important to successful individualised learning. The discussion now turns to consider these components.

Goal-Setting and Motivation

According to Disilvestro and Markowitz (1982), the theoretical basis for the use of

goal setting and behavioural contracts is founded in the expectancy theory of motivation.

The theory states that if a student is given a desired goal and is shown a clear path to reach that goal, the student will become motivated to increase effort toward that goal; providing that the student perceives a facilitated path to the desired goal. (Disilvestro and Markowitz (1983:218)

Motivation is influenced by socialization processes. Capacities such as focusing attention on the present moment and task at hand, defining one's goals and means of attaining them, and seeking feedback on progress, appear to be important skills in supporting motivation (Csikszentmihalyi and Nakamura (1989). Factors such as the ability to tolerate anxiety and uncertainty while awaiting delayed gratification are critical skills for activities that require significant investment of time and energy. These factors are particularly important in programmes of individualised learning. In order to set challenging yet realistic goals, to adhere to them and apply self-discipline, or perseverance in attaining such goals, students need high levels of motivation. The reality is such, as revealed in the Achieve programme at WHS, that not all students operate at this high level.

Schunk (1989) promotes the concept of self-efficacy, which is hypothesized as affecting effort expenditure, persistence in learning and motivation.

Self-efficacy in learning concerns the students' beliefs about their capabilities to apply effectively the knowledge and skills they already possess and thereby learn new cognitive skills. (Schunk, 1989:14)

Individuals weigh and combine aspects of their perceived ability, difficulty of the task, amount of effort expended, amount of external assistance received and patterns of success and failure to determine their self-efficacy. Outcome expectations and the value placed on the outcome also influence one's self-efficacy. Zimmerman, Bandura and Martinez-Pons (1992) maintain that the higher the self-efficacy, the higher the goals students set themselves, and the subsequent higher achievement further improves student self-efficacy. Their study was limited by statistical analysis however; observational and self-report data would have helped to explicate the intricate and complex social and personality factors beyond the academic variables. Nevertheless, considerable insights were gained on variable student goal setting. High-achieving students tended to set challenging goals for themselves and applied appropriate strategies to achieve them. Adjusting the time frame was one proposition for enhancing the learning of lower achieving students:

Experimental studies have shown that teaching low-achieving students to set proximal goals for themselves enhances their sense of cognitive efficacy, their academic achievement and their intrinsic interest in the subject matter. (Zimmerman, Bandura and Martinez-Pons, 1992:664)

Self-efficacy not only influenced students' setting of academic goals for themselves,

but also their achievement of the goals. Wentzel (1992) advocates a multiple goals concept, which considers that students can and often do pursue more than one goal at school. She argues that it is highly likely that high levels of achievement cannot be sustained without a joint pursuit of social, performance and learning goals. Social responsibility goals appeared to be primary motivators of academic behaviour.

Active pursuit of social goals can also promote achievement in that goals to be cooperative and compliant are likely to direct attention to the instructional process and support the pursuit of mastery and learning goals. (Wentzel, 1992:292)

Given the social nature of schools, particularly in the lives of adolescents, a consideration of social goals along with academic goals could be critical to the academic achievement of students. Adolescents have particular social and personal self-concept needs which affect motivation. Harris, Nixon and Rudducks' (1993) research suggests that peer culture, community expectations and aspirations greatly influence students' motivational levels, as is seen in the Achieve programme, depicted later in this thesis.

Often encouraging students to work in groups can satisfy their social needs, as well as encouraging academic task completion. In adolescence, students seek responsibilities that imply **power** to make their own decisions, **control** their own behaviour and thus to some extent, control the behaviour of others (Kolesnik, 1978). Because students tend to be particularly self-conscious and lacking in self-confidence at this stage, more cooperative learning situations may be appropriate. There is then greater likelihood of support for one another's learning rather than intensive competition or isolation in learning; both of which can undermine a student's intrinsic motivation. Several writers encourage the use of cooperative learning methods to promote motivation in academic learning, and socially responsible forms of behaviour (Nicholls, 1983; Slavin, 1984; Cohen, 1994). Cooperative learning increases the opportunities students have to observe similar peers perform a task, and so motivating the observers to believe that they too are capable of accomplishing the task (Schunk, 1989). The responsibility for learning is transferred from the teacher to the students. Further strategies in promoting motivation for adolescents include teachers' providing progress feedback to the student, and breaking tasks into short-term goals; particularly important for motivating low achievers. Strategy training can foster self-efficacy (Schunk, 1989), although the context must be carefully considered and supported. These findings have important implications for monitoring and conferencing of students' efforts in individualised programmes, as is seen at WHS; the subject of chapter six.

When students understand the social value of certain material and believe they are capable of learning it, then their motivational levels are enhanced. By devising ways of helping students perceive learning as a means of attaining their goals rather than goals imposed by the school, students are more likely to become motivated to learn. Implied here is an emphasis on understanding factors such as goals, needs, perceptions and unconscious motives of students. Such an approach requires

considerable teacher time and skill, individual student conferencing and has implications for learning programmes.

Classroom motivation problems arise from the fact that students are not always motivated to learn or do what teachers would like them to. Students are motivated, and maybe highly motivated, but toward something other than scholastic achievement. (Kolesnik, 1978:172)

The major role of the teacher is to assist students in setting realistic goals to achieve. It is the teacher's responsibility to ensure that the student is confronted with problems that emerge from the student's experiences, are within the student's capabilities and sufficiently arouse the student to seek new information. A means of arousing and maintaining interest in classroom activities is to allow, or require students to participate in planning, organizing and evaluating those activities (Kolsenik, 1978). Teachers who encourage student autonomy rather than emphasize direct teacher control produce higher levels of task-involvement and a higher sense of competence (Nicholls, 1983). **Choice** can also arouse self-involvement. One means of promoting choice is through the use of goal-setting.

Learning to coordinate competing and seemingly incompatible goals may be an additional self-regulatory process that can influence the levels of motivation and subsequent performance. Designing cooperative learning environments and teaching students to set proximal and distal goals when trying to accomplish academic tasks may be effective ways to promote successful coordination of classroom goals. (Wentzel, 1992:304)

Increasing even the illusion of **control** for students gives them a sense of power, so that they are more inclined to exert more effort and attention towards goal achievement. However, the benefits of applying more effort are only perceived by students when they see their future goals as attainable and when they are making progress towards them (Brophy, 1983). Students perceive reasonable effort as motivating, but success achieved only with sustained maximal effort as discouraging. Lepper and Hodell (1989) suggest that motivation can be enhanced by additional motivational embellishments, such as adjusting the degree of challenge (time limits and competitions). The pacing of activities can be critical in enhancing or destroying motivation. Brophy (1983) argues that students learn best when they proceed rapidly but in small steps, with 90-100% success rates.

The realities of individual differences and the limits on which schooling can be truly individualized means that some students will not be able to accomplish what other students can. Davis (1993) maintains that accurately assessing and determining the 'right' level of difficulty is difficult, if not impossible. Teachers can only hope to be informed about the kinds of conditions that promote motivational levels of students. Consequently encouraging and motivating students is a challenging task for teachers, even when given sufficient resources and opportunities to regularly monitor and conference students. High level teaching and evaluation skills are required of teachers, so that when faced concurrently with implementing an innovative

programme; requirements of which are new and challenging to the teachers, motivation and learning needs are not always competently met.

Goals influence motivation, commitment to learning strategies and self-regulating behaviours of students. The influence of the teacher is important in student goal-setting and future achievement. Teachers can assist in helping students set realistic goals by the use of such techniques as target dates, dividing larger goals into smaller tasks and employing appropriate learning strategies. These procedures are used more formally in contract learning.

Contract Writing

The conceptual roots of contract learning were stimulated by the philosophy of Dewey, but were developed further with the evolution of theory and practice related to independent study in the early 1920s. Knowles (1986:39) defines it simply:

Contract learning is, in essence, an alternative way of structuring a learning experience. It replaces a content plan with a process plan. Instead of specifying how a body of content will be transmitted, it specifies how a body of content will be acquired by the learner.

The contract typically embodies particular skills, attitudes and values expected to be learned by the student, learning strategies, target completion dates, anticipated evidence of accomplishment and how this evidence will be judged (Knowles, 1986). The contract is normally between the learner and the teacher, although variations are possible, such as between a group of learners and the instructor.

Both the teacher's and the learner's roles are transformed. Considerable time and effort are required by the teacher to assist the learner towards independence. The teacher plays a very active role in encouraging students to prepare drafts of the learning contract, reviewing them with peers and then the teacher herself reviewing the contracts individually with each student. Continual monitoring is required by the teacher. Hammond and Collins (1991) have similar views on learning contracts except they argue for an essential preliminary step of a detailed diagnostic assessment of learner needs, which the contract aims to address. If such a contract is designed to address individual learning needs the learner is likely to be better motivated to achieve self-set objectives.

However, some controversy surrounds the capacity of younger and less able students to design and adhere to contract plans. Hammond and Collins (1991) cite Caffarella (1983) as suggesting that junior students complete only small sections of the contract, with the residue being determined by the teacher. Other alternatives include students contracting in advance for particular grades or levels of achievement, and daily work contracts between a teacher and her pupils; appropriate for students who cannot cope with longer-term or more detailed planning (Hammond and Collins, 1991). Assumed here is unlimited teacher time and skill in designing and monitoring contract learning. The current study of WHS suggests that the reality is considerably different as is

explicated in chapters six and seven.

Although the student is given greater autonomy and control over his or her learning, the teacher does not relinquish responsibility for influencing the learning. A common occurrence in contract learning is for students to not challenge themselves to the extent that a classroom teacher would.

Some students may pursue their interests instead of meeting their identified learning needs. Others may have the ability to manage their learning but lack the motivation, commitment or self-discipline to do so effectively. (Hammond and Collins, 1991:135)

Learners therefore, need to be encouraged to reflect on and self-evaluate their learning. Unless learners regularly evaluate both the content and the process of their learning they may fail to diagnose self-management problems before so much time has passed that they feel too overwhelmed and disillusioned to continue. Study skills teaching may be required, along with study management and learning strategies (Hammond and Collins, 1991). These needs can only be identified by continual teacher monitoring.

Monitoring

Precisely measuring and matching student learning is impossible according to Davis (1993), and yet it is an underlying assumption of individual learning. Well known educators, such as Ausubel (1968; cited in Davis, 1993:267) state the importance of assessing student's learning:

The most important single factor influencing learning is what the learner already knows. Ascertain this and teach him (her) accordingly.

This diagnosis is particularly critical with individual learning. Davis (1993) concedes that recall can be assessed but the degree of recall and the networks of relationships of new knowledge integrated into and accommodated with previous learning cannot be accurately assessed.

It is not easy even for experienced teachers to match the widely differing needs and capabilities of individual children with appropriate objectives, methods and materials. (Davis, 1993:267)

Davis (1993) argues that teachers need to give greater control and direction over learning to the students' themselves for they 'know' whether the learning is new or not. There should be careful differentiation; what is taught and how it is taught need to be as closely matched as is possible (given assessment limitations), to the student's abilities and aptitudes. It is important to stimulate and challenge all students, including the most and least able (Davis, 1993). While keeping this ideal (of student self-evaluation) in mind, it is not realistic for teachers to suddenly relinquish control to students. Neither teachers nor students have the skills to do this. Gradual

transitions are required, particularly during and after evaluation modelling by the teacher.

Very few students appear able to organise their work without help. Consequently, unless some pressure is applied and guidance given, individualised work always takes far longer than the equivalent amount of teaching... In addition, locating resources means a great deal of time is spent simply moving about, acquiring or returning things which can be increased because of the inadequate personal motivation or organisation can lead a student to potter. In extreme cases, only 10% of student time is actually used for purposeful work. (Davies, 1978:76)

There is a critical connection between monitoring and the above section on goal-setting. Persuading students to accept time goals for completing particular pieces of work can reduce the problem of pacing and unnecessary time wasting. Monitoring the learning process and evaluating the learning by both the teacher and the student are pivotal components of any individualised learning programme.

Dean (1985), in a study of pupil self goal setting, found it necessary to provide students with a structure of guiding questions in order to stimulate reflection and self-analysis; necessary prerequisites for pupil self-evaluation. At times this involved a questionnaire, containing statements related to: organisation and personal qualities, abilities and skills, written assignments, and summaries of performance. These sheets were subsequently used (along with folders containing other evidence of reflection on a variety of problems), in tutorial discussions with each student. Together with self-analysis of goal-setting and critical analysis of actual tasks and progress, new goals were able to be set.

Perhaps the most important effect of our work has been the clearly apparent improvement in teacher-pupil relationships and an enhancement of motivation on the part of an appreciable number of pupils who are now looking more positively for relevance of their studies and activities in school. (Dean, 1985:17)

Waterhouse (1985) argues that the essential basis of any individualised programme is a framework of support and guidance for pupils. The programme needs to contain a clearly defined cycle of events: briefing, contract (teacher and learner negotiate the work to be done), standards expected, available support, date of the next meeting for review and assessment, and review with the student.

Good tutoring is required: skills of listening, waiting, questioning, prompting, encouraging, challenging, helping in the development of ideas... in an environment of personal and supportive relationships. (Waterhouse, 1985:32)

A systematic approach to organisation and a refinement of tutoring, or conferencing techniques is required for effective monitoring and individualised learning. If the teacher has provided supporting structures and procedures, the student is more likely

to gradually develop a sense of responsibility and skills to become an independent learner. Effective tutoring cannot be assumed however, and teachers require as much assistance with it as pupils, judging by the Achieve study at WHS (chapter six).

In summary, the integration of goal-setting, monitoring, conferencing and enhancing self-concept are related skills required of the teacher and student in individualised learning programmes. Underlying these themes is the issue of control. The balance of control in learning between the teacher and the student changes as the transition between teacher and student-directed learning occurs. The issue is a difficult one.

Autonomy and Control

Student-centred approaches have been experimented with for years, but they have frequently met with variable success. This is partly attributable to the natural inertia in existing school organisations and due to practical constraints (Davies, 1987). The ideal view of autonomous learning assumes the learner actually has the ability to do what s/he wants and can quickly acquire any necessary skills. The point at which a learner can become autonomous depends largely on the skills and the relationship between both the learner and the teacher.

In providing some guidance on this point Davies (1987:13) quotes the CET (Council for Educational Technology):

The extent to which an individual learner, at any particular stage of development and with an individual range of abilities, can or should exercise control will vary greatly, but the aim should be to encourage and support learners towards the greatest degree of responsibility for their own education and training of which they are capable.

Perhaps the greatest challenge is to convince teachers of this ideal, as well as to equip them with the necessary skills, a factor which is developed later in this thesis. Davies (1987) identifies core elements of autonomous learning as the degree of **choice**, capability, pattern of availability (content and learning opportunities) and the extent and type of motivation. The ideals are rarely seen in practice however, due to the sheer labour involved in producing interesting units of work. Consequently, many of the 'programmed learning' units provided minimal choice for students and either involved virtually rote learning or were used as diagnostic aids to help students with specific problems. The root of such difficulties lay in the inadequate teacher development and provision of resources.

Most people in education have a fairly fixed perception of supported self-study and open learning as consisting of pre-packaged materials and preferably, for attractiveness, including complex media items... Colleges which cannot enrol sufficient students to run conventional courses see them as a way of providing substitute tuition; schools see them as possible ways of maintaining breadth across the curriculum where normal staffing would be uneconomic or is not available. (Davies, 1987:39)

The political and economic undertones cited at the beginning of this chapter, are alluded to once again. Political and economic reasons have commonly prompted schools to adopt individualised programmes, rather than the educational ideals. In contrast with perceptions of pre-packaged convenience, successful units of work require considerable teacher skill in their design and delivery with frequent feedback points, monitoring, appropriate questions to guide and extend students, and work based on important aspects to be learned.

The current analogy is that of replacing a fixed menu (conventional provision) with a cafeteria system (flexible access with some apparent element of choice) though the individual choices are still effectively predetermined. (Davies, 1987:50)

The most difficult aspects of learner autonomy to incorporate are allowing the learner to specify what s/he wants to learn, why s/he wishes to learn it, and deciding how the learning will take place. Unless student choices can be accommodated in terms of interest and teacher support, then the offering of individualised learning programmes are a guise rather than a reality.

Eshel and Kurman (1990) investigated the affects of individual instruction and traditional classroom methods on pupil achievement in Israel. They argued that the ultimate aim of attempts to individualise education was to change the traditional division of **power** between teachers and students, thus **sharing control** of learning with the students. Higher student self-confidence, satisfaction and achievement were associated with shared authority (Eshel and Kurman, 1990). However, it needed to be matched with students who were ready to accept greater responsibility, for a mismatch between formal and informal authority structures with informal and formal school cultures was found to be ineffective. This finding has significance for the current study as the issue of decision-making, or control, became an emergent theme.

Corno (1992) contributes another dimension to the issue of autonomy and control. She defines motivational and volitional behaviour and argues that volition (will power) is evident even in very young children. Although Corno (1992) needed more evidence to indicate the ideal timing, the level of modelling, and to address the problems of teacher withdrawal, her research concurs with the above cited authors in recognising that learning-oriented students use deeper learning and study strategies and feel better about themselves as learners.

Self-regulated learners understand their own thoughts and emotions enough to regulate or control them while learning, just as they adopt appropriate goals and attitudes and take responsibility for completing and evaluating their work... Self-regulating learning encompasses goal-setting (motivational) and goal-protecting (volitional behaviour). (Corno, 1992:74)

Volition made a significant difference to students' capacity to persevere and follow-through with sustained efforts. Learning environments which encourage such behaviour included providing opportunities for students to investigate their own

interests, and stimulating lively talk with supportive peers (cooperative learning). Finally, Corno (1992) advocates considerable initial teacher assistance with a gradual reduction in assistance so that students learn to rely on their own inner resources while gaining sufficient self-confidence to continue.

Although these ideals are inspirational in theory their practical implementation is fraught with difficulties. The discussion now turns to consider inherent issues and problems in individualised learning.

Problems and issues in individualised programmes

The issues identified here include the nature and effectiveness of individual learning, assessment and student conferencing, contracts, management of individualised learning, and the tension between individual and cooperative learning.

Thomas (1992) argues that individualised learning is the best form of learning there is but that there are few actual studies of it in schools. He believes it is an ideal method for preschoolers and proteges, but that it is very difficult to implement in a class of thirty or more students. This thesis examines the implementation of an individualised programme (Achieve) within a school of 100 students, an enterprise in which these very issues were encountered. What is actually meant by the term individualised learning is also the subject of considerable practical and philosophical debate of the WHS teachers and students. However, the fundamental issue, **how** to teach, being an essential research question still remaining in individualised learning studies, is explored in some depth in the sixth and seventh chapters of the thesis. Nevertheless, some cognisance of Thomas' (1992) criticism is heeded.

‘Individualised teaching’ should not be confused with ‘individualised instruction’. The latter term is a misnomer because it deals mainly with pupils learning on their own at their own rate, and possibly planning their own learning agenda, with no extra individual interaction with the teacher. Sometimes individualised instruction is more generally associated with informal classroom teaching. (Thomas, 1992:60)

Thomas (1992) cites a major observational study of primary classrooms where the questioning and exploratory nature of learning in which the teacher engaged with individual children in a probing, questioning way was paradoxically only found in whole class teaching. In classrooms containing individualised learning programmes:

Teachers did not diagnose. They reacted to the product of a child's task performance rather than to the processes or strategies deployed in attaining the product. Thus procedural matters, such as taking the child through the rules of carrying numbers or providing spellings, predominated, rather than diagnosis of the nature of the child's cognitive misconceptions. (Bennett et al, 1984:217; cited in Thomas, 1992:63)

The structure of learning does not necessarily result in a changed interaction style

between the teacher and student. Thomas (1992) includes reviews of four curriculum areas and concludes that little can be gained for translation of the research into whole-class teaching methods. He believes it is not surprising that given high class numbers teachers have minimal time to interact with individual students and thus offer fleeting guidance, commonly of a didactic or procedural nature. He concludes that the "time-honoured 'chalk and talk' method of teaching might actually be the best... in the conventional classroom" (Thomas, 1992:66-67).

Romiszowski (1982) derived similar conclusions in his research where he trialled three different instructional techniques with groups of adults and students. It was found that these students had statistically significant test score gains in programmes which were more prescriptive than independent learning. Matching the learning approach to the particular learner has been a recurrent theme throughout this review of related research.

The use of programmed learning materials and textbooks with individual pacing is not truly individualised teaching. Although differences in rate of learning may be accommodated, this approach is not responsive to other variations among students, such as motivation, learning style, energy level, attitudes, previous learning and complex personality factors (Talbert and Frase, 1972). Uniqueness of students and teachers requires flexible and varied learning approaches. The teacher therefore needs to be a consultant, resource provider; facilitator of student planning, evaluation and taking responsibility for self-direction. A flexible mix of individual, small-group and large-group activities, temporary interest-centred groups and a variety of learning media and resources beyond the classroom are needed for an effective programme of individualised instruction (Talbert and Frase, 1972).

Summary

There is thus some controversy over the sole use of individualised learning situations. A combination of practices appears to increase student interest and motivation, as well as address different learning needs of various students. The combination though can challenge the beliefs of the 'purists' who believe the student should be the main determiner of their own learning. Teachers do not relinquish complete control of the learning to students however, the amount and type of relinquished control is dependent on the unique mix of skills and personal work habits of the student.

Conferencing and detailed monitoring are vital components of any individualised programme for teaching the necessary process and content skills, and negotiating the contracts of each learner. The process of transforming a learner from a teacher-directed to an individualised and eventually an independent learner requires careful guidance, specific classroom management strategies and highly developed skills on the part of the teacher. Detailed goal setting and individualised, negotiated contract writing are seen to be integral components of this process. Ultimately the teacher guides the student towards self-reflection and self-evaluation, so that the student takes greater responsibility for his or her own learning and becomes more independent. The delicate balance between teacher-directed and student-centred approaches

determines the success of the transfer of teacher control to student autonomy in learning. The relationship of the development to ones' peers is another underlying tension in individualised programmes, with a constant struggle between intrapersonal and interpersonal development of the individual student. This tension is now explored in the literature on cooperative learning.

COOPERATIVE LEARNING

The literature on cooperative learning is discussed under four headings:

- * definitions;
- * required skills;
- * models and examples and;
- * strengths and limitations of cooperative learning.

What is meant by the term 'cooperative learning'?

Definitions of Cooperative Learning

Teachers frequently believe that their students are engaged in cooperative learning while they are sitting alongside each other and working on individualised tasks. Such situations generate only low levels of cooperation and low frequencies of explanations and knowledge sharing (Bennett and Dunne, 1991). Teachers need to distinguish between two different justifications for group work - personal/social and intellectual benefits (Bennett and Dunne, 1991).

Johnson and Johnson (1975:7), two renowned researchers in the field of cooperative learning, offer a definitive explanation of what constitutes cooperative learning:

A cooperative goal structure exists when students perceive that they can obtain their goal if, and only if, the other students with whom they are linked can obtain their goal. A cooperative goal structure requires the coordination of behaviour necessary to achieve the mutual goal.

Cooperative learning does not occur spontaneously. Students need to develop skills in communication, effective decision making, conflict resolution, compromise, and shared leadership in order to work effectively in groups. Cooperative learning requires considerable relationship building and trust development before students are able to share ideas and effectively help one another. Johnson and Johnson (1975) argue that there is a deep human need to join with others in mutual endeavours, an essential element of human society. Indeed, cooperative interaction is deemed necessary for effective building of self-confidence, personal identity and cognitive development.

The basis of interaction is talk. Bennett and Dunne (1991) investigated the nature of children's talk in cooperative learning situations and found that the task dictated the level of talk that occurred. Their research analysis resulted in identification of various levels of talk. These levels included variations from *collective monologues*

(which occurred in groups with minimal experience in cooperative learning), where children talked to themselves about their own activity with little concern for others in the group, through *sharing in action* when talk centred on a shared activity, (although it was frequently a response for help), *collaboration in action* which occurred when the children collaborated on an activity, to the final level of *genuine argument*, which was characterised by logical solutions and explicit reasoning (but which rarely transpired). Although considerable experience of cooperative group work by the teacher and students is required, awareness of such a classification would enable teachers to facilitate improved arguing for students in cooperative groups and enhance their problem-solving abilities. The ability to implement this is dependent on teachers' understanding of cooperativeness.

A brief comparison of definitions of individual and competitive learning situations will further highlight the distinctiveness of cooperative learning:

An individualistic goal structure exists when the achievement of the goal by one student is unrelated to the achievement of the goal by other students; whether or not a student achieves her goal has no bearing on whether other students achieve their goals. (Johnson and Johnson, 1975:7)

A competitive goal structure exists when students perceive that they can obtain their goal if, and only if, the other students with whom they are linked fail to obtain their goal. Competitive interaction is the striving to achieve one's goal in a way that blocks all others from achieving the goal. (Johnson and Johnson, 1975:7)

In cooperative learning the contribution of all members towards the same goal is necessary for attainment of the common goal. In contrast, competitive situations allow attainment of a goal only at the expense of the competitor. Either the student or the competitor achieves the goal; both cannot share the reward. With individual learning goals, consideration of another's goals is irrelevant. The goal achievement is dependent on the efforts and abilities of the individual and is not affected in any way by another person's goals. The distinctive feature of cooperative learning therefore, is that either all or none of the group achieve the goal. Although situations can arise where the goal can be achieved with minimal contribution by some members, the most effective accomplishments are achieved by all group members working together with a **common** purpose. Johnson and Johnson take this point further:

In a cooperative goal structure, students work together to produce one product. If students are each producing a product that they do not integrate into one, the goal structure is not cooperative. (Johnson and Johnson, 1975:80)

A common goal and a joint product are consequently fundamental principles of cooperative learning. Lawrence (1991) argues that several conditions must also be fulfilled, such as individual accountability in contributing towards achievement of the

group goal(s), and that teachers may need to structure rewards for the whole group so that individual members do not exclude members who may be perceived as less competent. Skills need to be taught; students cannot be expected to naturally possess them. Teachers also need to establish groups of appropriate size to ensure that cooperative ventures are likely to succeed. It is however, the misunderstanding by teachers of the need to teach such skills that leads to disillusionment with cooperative learning. As is seen in chapter six, teachers at WHS trialled some cooperative learning ventures, but were discouraged by students' apparent lack of skills. Understanding prerequisite skills and various levels of cooperativeness seems to be important for successful cooperative learning. A gradual exposure to each level may be required in a structured sequence of cooperative learning activities.

Pepitone (1985) provides an interesting taxonomy of patterns of interdependence, essential prerequisites for cooperative learning. She states the first level to be that of *coaction*, where the mere presence of others stimulates interaction, albeit limited and low level. This may simply be social comparison. The next level is *colabour* where limited task interdependence is created. A considerable degree of task interdependence does not occur until two levels later with *coordinative collaboration*, when instead of working towards a common goal, students exchange help in order to complete their own goals. The final level, *role-related cooperation* has all members striving towards a common goal (such as the jigsaw approach). All members' roles are essential, in terms of task and group roles. The common goal enhances group bonding, trust and positive feelings toward the group. Realities of student needs, degrees of personal maturity and the nature of specific tasks mean that all types are likely to be used in classrooms, although the final level is the most desired group functioning. The taxonomy alerts teachers to the various skills and types of cooperative tasks that are appropriate to cooperative learning ventures. The skills required in cooperative learning however, are multifaceted.

Required skills in cooperative learning

Johnson and Johnson (1975) maintain that cooperative learning requires skills in: communication, building and maintaining trust, and controversy resolution. The latter requires resolution of different points of view and potential conflict. Lawrence (1991) extends this list of skills to also incorporate leadership and decision-making. She claims that teachers need to emphasize the importance of specific social-cooperative skills with the students, and need to monitor social interaction in order to provide assistance where necessary. Evaluating student achievement and helping them to know how well they cooperate with each other is shown to result in more effective cooperation (Guskey, 1990; Lawrence, 1991).

Johnson and Johnson (1975) provide procedures for teaching the necessary skills for cooperation: asking students what skills they need to cooperate, ensuring students understand the skill, establishing practice situations, providing feedback to students, and setting classroom norms to support the use of cooperative skills. Conscious teaching of the skills is deemed necessary, rather than merely learning by doing. However, teaching of the skills implies teacher knowledge and understanding, as well

as time and resources; assumptions which were not realized at WHS.

Students need to be taught five crucial elements in any cooperative learning model: positive interdependence, individual accountability, face-to-face positive interaction, social skills and group processing (Guskey, 1990). Positive interdependence is critical, where students understand that they are responsible for their own learning and the learning of others in the group. An integral component is individual accountability, with each member fulfilling his or her obligations, usually to master assigned work. Often this aspect is neglected in attempts to establish cooperative learning, resulting in only some members of the group performing the assigned task. Although students ultimately need to practise the skills in success-likely situations, practise without reflection and analysis is limited.² Attention to identifying and learning the skills, along with self and group evaluation is essential for students if higher levels of cooperation are to occur.

Cooperative learning provides opportunities for students to engage in some sort of teamwork, effective coordination and division of labour that characterize most real-life situations. (Guskey, 1990:34)

There is a substantial difference between putting students into groups to learn and structuring the learning task so that cooperative learning is the natural process and by-product. Johnson and Johnson (1990), and Slavin et al (1985), recommend that teachers use group points or rewards to increase the use of cooperative skills, such as explaining answers, criticizing ideas without criticizing people, and asking probing questions. These social skills are seen as life long.

Flexibility is required in group situations and problem-solving techniques. Consequently, some group learning techniques require each individual in a group to work on a separate component of the whole product. The individual contribution is then combined to form a final product. In other techniques every individual works together on the same task throughout the learning process. Variations on these themes are given in the following examples of cooperative learning methods.

Models and Examples of Cooperative Learning

Although there are innumerable variations of cooperative learning experimented with in schools and work situations, eight models are commonly referred to in the cooperative learning literature (Johnson and Johnson, 1975; Slavin et al, 1985; Lawrence, 1991; Furtwengler, 1992). All of the eight models (such as STAD, TGAT, TAI, GI, Learning Together, Coop Coop and variations on the Jigsaw) imply some teacher direction, certainly in the initial stages. Cooperative learning models provide varied learning opportunities for students, especially in oral communication.

²There is controversy amidst some authors about the value of cooperative groups reflecting on the effectiveness of their group functioning eg Slavin, (1980); Johnson et al (1990).

They contain potential value even in primarily individualised learning programmes through encouraging and valuing participation by every member, rewarding group success and in addressing social needs (reducing feelings of isolation) of students. Learning together in teams provides important incentives which strengthen motivation and alleviate anxiety (Guskey, 1990); thus countering the loneliness which is often prevalent in individualised programmes, such as Achieve.

The models can be problematic however, for individualised learning programmes such as Achieve which strive for independence, pupil *self-direction* and pacing of learning. The value and role of *social interaction skills* in developing independence and interdependence is often not recognised in individualised learning programmes.

Research has told us that cooperative learning fosters development of critical thinking through discussion, negotiation, clarification of ideas and evaluation of others' ideas (eg Meyers, 1986). (Lawrence, 1991:10)

Although there is some disagreement as to the academic benefits for more able students (Johnson and Johnson, 1985; Dunn et al, 1989; Guskey, 1990), medium and low achievers in particular, benefit from cooperative learning experiences. Social benefits are undisputed, with most students reporting greater liking and acceptance of handicapped students, improved social interaction and support among peers, and greater positive feelings toward school (Slavin et al, 1985; Guskey, 1990; Lawrence, 1991), as a result of cooperative learning.

Experiments have been conducted with trialling cooperative learning methods in conjunction with other learning methods, such as with computers, and mastery learning. Johnson, Johnson and Stanne (1986) explored the effects of computer-assisted cooperative, competitive and individualistic instruction on student interactions, attitudes and achievement. The authors maintained that computer-assisted cooperative instruction promoted greater quantity and quality of daily achievement, more successful problem-solving, more task-related student interaction and increased the perceived status of female students. In contrast, a focus on children's questioning skills by Mevarech and Susak (1993), yielded minimal difference between mastery learning groups, cooperative learning groups and a combined mastery-cooperative learning group. Although the authors found a greater quantity of student questioning occurred in small-group situations, the lack of corrective feedback nullified the effects.

An understanding of these various cooperative learning models and examples provide teachers of individualised learning programmes, such as WHS, with a greater range of teaching and learning strategies. However, a reflective stance is required in order to understand and justify their inclusion in practice, particularly the value of cooperative learning in fundamentally individualised programmes.

Strengths and limitations of cooperative learning

Establishing cooperative groups is problematic.

Because a teacher structures a learning situation cooperatively it does not follow that students will always behave cooperatively. A student must have the skills necessary for cooperative behaviour and must make a decision to use them. (Johnson and Johnson, 1975:37)

Not only are skills important, but so too are inherent attitudes. King (1992) found in his study that high achieving students assumed dominant roles in undertaking group tasks, in group decision-making and in the frequency and quality of contributions to group efforts. Low achievers were often passive during small-group work. Heterogeneous groups are often recommended but unless rewards are allocated for contributions by the whole group, the more able students often dominate group talk and are largely responsible for group decisions (King 1992).

As low achievers worked in small-group situations they continually seemed to be outwitted and outmanoeuvred by the speed of thought, depth of mathematical knowledge and reasoning of high achievers. (King, 1992:409)

Ironically, the low achievers reported enjoying maths in small groups, making new friends and feeling as if they were learning better, despite the contrary research findings.

Holden's (1993) study also revealed examples of exclusion amongst students, but on this occasion along gender lines. The percentage of talk and type of talk varied across curriculum areas and according to gender group composition. The amount of talk by girls in language tasks when they were involved in cooperative group work was far greater in quality and quantity than the talk elicited from them in whole class discussions. The composition of the groups had considerable influence on the talk. Where boys were either in greater numbers than girls in the group or when there were only one or two boys, the boys tended to dominate discussion. (This finding was also supported by Webb (1985). The only exception to this was during language tasks. Better balancing with equal gender numbers seemed to result in more equitable discussion. This finding has implications for teachers who encourage students, such as in Achieve, to form their own groups with variable gender composition; resulting in different quality and quantity talk.

Pepitone (1985) cites research indicating that children from affluent backgrounds generally function better in competitive work situations than children from less privileged backgrounds. In fact, some of these children are passive non-participants in group situations. Younger and lower socio-economic level students experienced greater success in cooperative situations. This finding suggests that elements of cooperative learning in individualised learning programmes may be less beneficial for older students; a factor requiring reflection by teachers in their particular situation.

Finally, Webb (1985) cites research examining the achievement of students instructed to work with others compared to the achievement of students instructed to work individually. Students in the group condition showed lower achievement than students in individual conditions. There was evidence of a positive relationship between

giving explanations and achievement for low-ability students but not for medium and high ability students. Unfortunately the type of cooperative learning structure was not supplied, nor the degree of student experience with cooperative learning. Nevertheless, cooperative learning appears to be beneficial to lower achieving students and of uncertain academic benefit to more able students. The heterogenous composition of the group may be the vital factor.

In comparison, individualistic situations result in greater interaction between each student and the teacher (Johnson and Johnson, 1975). Certain cognitive outcomes are enhanced by individualised learning, such as programmed learning and some mastery techniques, acquiring skills in using equipment alone (such as microscopes), and organising one's time and effort. Tasks requiring intensive concentration are often best accomplished alone. Competitive situations appear to increase performance on simple drill activities, on speed-related tasks and where a large quantity of work needs to be accomplished and which requires minimal help from others (Johnson and Johnson, 1975). However, competition can have detrimental affects socially and psychologically for particular students.

Bennett and Dunne (1991) emphasise the importance of the social setting in learning. The absence of social development in individual learning is frequently lamented:

When students work under an individual goal structure, the social development of the student will suffer, as little interaction will take place among students. Interpersonal and group skills will not be learned and utilized, student friendships and support systems will be minimised and student loneliness and alienation will result. (Johnson and Johnson, 1975:53)

Despite the inherent difficulties caused by differences of gender, ability, socio-economic levels and learning preferences, cooperative learning is advocated for numerous educational reasons. Kagan (1985) states that the benefits of cooperative learning include enhancement of student achievement, promotion of positive social and ethnic relations and increased positive feelings amongst students for class, school, learning and self. Johnson and Johnson (1985:114), further this argument:

Currently, there are no tasks on which cooperative efforts are LESS effective than are competitive or individual efforts and on most tasks (and especially more important learning tasks, such as concept attainment, verbal problem-solving, categorization, spatial problem-solving, retention and memory) cooperative efforts are more effective in promoting achievement.

However, Johnson and Johnson (1975; 1985) do not supply convincing and detailed research to support their claims. The field of cooperative learning requires more detailed research, particularly with students of higher ability, controlled experiments with students trained in cooperative learning skills and using a variety of different cooperative learning models. None of the literature has explicated the teachers' understanding of cooperative learning nor intentions when establishing cooperative learning groups. Teachers' understanding, along with that of the students will

markedly affect the learning outcomes of the students.

The present study explores the choices students make, within a restricted climate, to opt either for some forms of individual or more social settings for learning. Finally, the vital importance of the school culture and indeed motivational forces for student learning has yet to be studied. This is explored in the *Emergent Themes* chapter.

Although preferences for individual or cooperative learning have frequently been made on the basis of introversion or extroversion preferences of students, and desires for social support, there may in fact be underlying circumstantial factors involved. A need to gain peer approval or acceptance may be factors in favour of cooperative learning; while the inability to relate to others or a deep sense of task-achievement may tip the balance towards individualised learning preferences. Students, teachers and indeed programmes undergoing change, may create a greater need for social support, or time alone. Change demands the relinquishing of old skills and the attainment of new competencies during a time of uncertainty and insecurity. This is particularly so during organisational change (such as implementation of the Achieve programme), which brings new challenges and creates different dynamics in the learning culture. What impact therefore, does innovation have on learning and the wider school culture?

CHANGE AND INNOVATION

This section of the review of related research examines the nature of change and innovation. Definitions of the terms are briefly explored, and are followed by a few models of change and innovation. Consideration is then given to conditions which facilitate and hinder change, as well as the influence of school culture.

Definitions

Innovation implies structural alteration, while change implies more minor modifications (Daft and Becker, 1978).

By innovation I mean any activity or practice which involves human beings in changes to established routines... which presumes that innovations are contextually embedded. No one innovation can exhibit the same features as another or require the same support strategies to take it through from the approach/adoption stage to fully integrated institutionalisation. (Somekh, 1992:1)

In Somekh's (1992) study of teachers adopting an innovation she found that the school culture greatly influenced the nature and extent of innovation implementation. Her findings are supported by many other researchers, such as Guskey, (1990); Joyce, (1990); Springfield et al (1991); Guskey and Sparks, (1991). There is a distinction between innovation and implementation however. Gross, Giacquinta and Bernstein (1971:7) argue that:

innovations introduced into schools are only **proposals** for change; to achieve their intended effects, they must be implemented.

According to these authors, innovations are ideas which need to be translated into practice. Innovations frequently fail in schools because they are either not fully implemented or conditions thwart the establishment of change. Implementation occurs over time and various phases. Gross, Giacquinta and Bernstein (1971) have distilled several phases of implementation. An initial period of 'attempted implementation' begins after an announcement or decision to adopt an innovation. This is often a phase during which teachers fail to make a commitment to the change and incorporation of the change does not occur. As Harrison (1989) argues, personal commitment to change is necessary before real change can be delivered, but *real change* can only occur when the *thinking* about a situation changes. However, once a personal commitment is made, Gross, Giacquinta and Bernstein (1971:24) suggest that certain antecedent conditions are required before effective implementation can occur. These conditions include "external pressure, internal tension, a previous atmosphere of change and an outside expert with a positive image." Such factors contribute towards the impetus for change and are seen to be verified with the Achieve programme at WHS, for it was falling rolls and changes to the national curriculum that stimulated the search for an alternative programme.

Innovation requires not only establishment but continuing support and development in order to sustain and promote further growth. Models of innovation provide some insight into the developmental process required.

Models and Principles of Innovation

Morrish (1976) suggests that innovations tend to occur through the accretion of a variety of changes.

The system as a whole is perpetually being infused with new ideas and it is transforming those which it is prepared to assimilate into some newly conceived form more consonant with its own norms and practice. (Morrish, 1976:25)

As educational innovations are commonly concerned with increasing learning, more individualised learning or improving the quality of teaching and its profession, it involves a corresponding change in the activities and attitudes of the school personnel. Innovation is the result of deliberate choice and the focusing of time and resources. Such commitment means that innovations do not occur frequently (Morrish, 1976). When innovations do occur they are generally an endeavour to reduce the gap between current practices and objectives and to invent new ways of dealing with these problems.

Nevertheless, the effectiveness of innovations is governed by principles of change. Huberman (cited in Morrish, 1976) identified two principles in educational change: critical mass and critical threshold. With critical mass there is a certain amount of

pressure needing to be exerted on an organisation in order to compel it to change. Particular aspects of organisation require differential forces to induce change. Change in acquiring skills and goals require less force than do values and orientations, the latter being more resistant to change. Havelock (cited in Morrish, 1976), suggests six types of change are required for adaptation or adoption. These include: substitution, alteration, addition, restructuring, elimination of old behavioural patterns and habits, and the reinforcement of old behaviour. Often educational innovations require aspects of each of these changes; particularly as the majority of educational innovations are introduced in a sporadic rather than a continuous manner (Morrish, 1976). Each of these types of change are seen in the implementation of Achieve, as detailed in chapter six.

Three process models of change are proposed in the literature: research and development, social interaction and a problem-solving model (eg. Morrish, 1976). The research and development model is well known but is too rational and predictable for educational usefulness. The social interaction model is simply adoption of an idea observed in a similar institution, such as another school. This model actually occurred in the initial stages of the Achieve programme, where WHS adopted and adapted the programme from the original innovative school, QHS. However, full implementation of Achieve required incorporation of the six types of change identified by Havelock (ibid). The third model is the problem-solving model, which operates within Lewin's three phases:

- a) unfreezing - when there is a realisation of the need for change
- b) moving - when a variety of activities are involved in the implementation of change
- c) freezing - a period of fixing new forms of behaviour and activity into the life of the organisation

These three phases can be discerned in the *Five Cycles of Action Research in the Achieve Programme*, chapter six.

According to Baird and Mitchell (1986), when individuals attempt something new they move through various stages of concern about the innovation. Success depends on each stage being accomplished. Development moves from the self level (when participants question their capabilities of performing a particular task), to a task level (when individuals consider the procedures they will use), and finally to an impact level (where people wonder about the influence of their adopted changes on other people around them). These levels of concern are related to the CBAM (Concerns-Based Adoption Model), where the person moves from concerns about mechanical and routine issues to refinement, integration and renewal. Elements of these processes are seen at WHS, as portrayed in chapters six and seven.

However, none of these models perfectly represents the change processes of WHS, for as with any change, the reality is more complex than the theory suggests. Adoption processes vary according to the history of the institution, its current culture and conditions causing change and resistance. Various phases of adoption are common to many institutions nevertheless. Morrish (1976) suggests that change is often initially accepted by a small percentage of early adopters. Gradually more

people in the institution adopt the innovation as they perceive its benefits, so that the effect snowballs. However, in every institution there is a group of resisters who will never adopt the innovation. They are abstainers from most institutional innovation. A similar pattern is observed in the implementation of the Achieve programme. The sixth chapter depicts the changing attitude of several teachers who gradually accepted the full implications of the innovation; with one person resisting the change throughout the study.

Resistance is inherent in personality and in action. People need to counteract habit, dependence, insecurity and homeostasis in order to be open to change. Their sense of competence and self-esteem is threatened by change, and is further fuelled by self-distrust and self-fulfilling prophecies (Morrish, 1976). Acting on changes is resisted through ignorance, a preference for maintaining the status quo, social mores, interpersonal relationship patterns and reliance on experience of time-proven methods. Teacher development and a climate of open communication and support (fundamental attributes of action research) are critical counter balances to such resistance.

The success or failure of an innovation is deemed to depend on the existing school culture (Staessens, 1993). Successful innovation is dependent on cooperation within the team, openness to reflection on the classroom and school practices as a whole, a nurturing culture, compatible norms and values to change, a degree of receptivity and facilitation of channels for new norms. It must be acknowledged that the impact of school culture on change is a thesis topic in itself (Poskitt, 1989). However, action research has the transformation of school culture as its fundamental basis of improvement in understanding and practice; factors explored in greater depth in the two following chapters. Of more pertinent concern to this current discussion are the conditions for successful innovation.

Conditions facilitating and inhibiting innovation

Successful innovation occurs when structures are altered first, followed by attention to interaction processes and attitudes.

Literature on social change has shown that people generally accept innovations more readily if they **understand** them, regard them as **relevant** to their particular situations and also help to **plan them**. The process is often accelerated by using group cohesiveness as a catalyst. Consensus is more strongly established in each member by the fact that a group makes a decision or a commitment, while at the same time the interaction among members improves communication or leads to a greater interdependence in the system... Innovative institutions usually have greater financial support, more highly trained teachers and more highly educated parents (Morrish, 1976:129). (Highlights added by the present author)

Factors facilitating positive change include the provision of time, support, resources and in-service opportunities for staff. Researchers have found that teachers take from a term to two years to become willing to accept failures, make fundamental changes

and reflect on their teaching (Baird and Mitchell, 1986; Guskey and Sparks, 1991). "The first year is a time of trial and experimentation... a great deal of effort goes into *adjusting to the innovation and adjusting it to fit* the conditions of particular classrooms" (Guskey, 1990:12). This finding is consistent with the WHS study which occurred over a two year period, during which teachers responded to change and reflection at varying rates. Teachers valued the opportunities for professional development and new perspectives on learning and teaching.

Development appears to be quicker and deeper within a context of support and regular feedback. Successful innovation needs to be integrated into present school practices within a supportive school climate, which nurtures trust and encourages shared decision making (Guskey and Sparks, 1991). Writers such as Wood et al (1992) argue that in staff development for change, the first stages are that of awareness and information, sometimes termed as '**readiness**'. Time is needed to allow teachers to personalize the information before teachers can change their ideas or behaviour. For this stage to occur, time must be given for **reflection**.

There is a kind of reflection before people move from personal concerns to the processes and task of implementation. In other words, they need time to deepen and affirm personal meaning before moving to the commitment of managing innovation. (McCarthy, 1982:22)

She maintains that teachers attend in-service courses to improve classroom application but rarely go beyond a personal interaction with the ideas and concepts. The need to pause and **reflect** is well documented and indeed, researchers such as Glickman (1981) argue that *successful* teachers are *thoughtful* ones, contending that the ability to think about what they (teachers) do should be the aim of innovation and staff development. A thoughtful environment must provide teachers with an opportunity to apply what they have learned in ways that encourage adult cooperation, personal reflection, feedback and on-going dialogue (Strong et al, 1990). The use of an action research approach is, therefore, highly relevant in staff development.

Baird and Mitchell (1986) advocate regular staff meetings in which teachers discuss and reflect on professional issues. Such opportunities also provide teachers with reassurance, advice and sharing of ideas. As is seen in the WHS study, incorporation of an action research approach facilitates this process through the use of regular dialogue and deliberation of frequent feedback discussion documents. For the teacher, learning means giving up control and concentrating on listening and reflecting on what has been happening in the classroom. Teachers frequently experience initial disillusionment and depression during the process of major change in their attitudes and behaviour (Baird and Mitchell, 1986). However, significant change will only begin after the relevant teacher changes have occurred. Developing and researching an innovation demands a high level of personal commitment from teachers. During such times of innovation extensive in-service is essential (Baird and Mitchell, 1986), and follow-up support is necessary for on-going teacher practice of new techniques. Staff discussion and participation in deciding to adopt an innovation are important practices for deepening understanding and relevance. The use of an

action research approach, as detailed in the following two chapters, addresses such needs of innovation.

Conditions for innovation implementation are not always ideal however. Gross, Giacquinta and Bernstein (1971) indicate that there are five factors that result in less successful, or **minimal implementation** of an educational innovation. These factors are also seen in the Achieve programme: teachers lacking a clear understanding of the innovation, inadequate skills or capabilities, the unavailability of required instructional materials, the incompatibility of organisational arrangements with the innovation and the lack of staff motivation. Contributing to the teaching difficulties are the document focus of innovations. They commonly indicate what students should be doing but give slight attention to what teacher behaviours are required (Gross, Giacquinta and Bernstein, 1971).

People prefer familiar and stable behaviour in organisations, which are a function of past experiences, norms and established interpersonal relationships (Daft and Becker, 1978). The desire for stability is believed to inhibit innovation and change, so that intervention by an outside agent is often necessary to accomplish change. Writers such as Fleming (1974), also cite difficulties with the management team in hindering the implementation of innovations. In one study Fleming cited 64% of teachers surveyed maintaining that the principal did nothing to help in the implementation of individualized programmes into their school organisation. Although teachers do not always understand the complexity of the principal's role, nor the invisible and intangible dimensions to leadership, their perceptions of inadequate assistance reduced their motivation and commitment of time and energy to implementation of the innovation.

Gender differences can affect the manner and outcomes of innovative practices. Strachan (1993:73) states that:

Women educational leaders preferred a style of leadership that emphasised the importance of relationships, that included shared decision-making processes and that was empowering of others.

She believes that educational leadership is an activity that involves the sharing of values and beliefs. A culture open to communication, trust and support is required in order for relationships to be built. Where the environment is perceived as not supportive, resistance to innovation can develop. Often teachers' resistance to an innovation can be attributed to disenchantment and disillusionment arising from disappointments and frustrations that multiply during months of implementation. Feelings of overload, 'being used', fatigue and strain are common outcomes of innovation (Gross, Giacquinta and Bernstein, 1971). The principal and senior administration team occasionally lack effective communication channels.

Our case study suggests the importance of the need for a strategy which includes mechanisms for effective feedback between the initiators of the change and those who must implement it and which maintains efficient

problem-solving mechanisms for both the unanticipated and anticipated issues which arise during the period of attempted implementation. (Gross, Giacuinta and Bernstein, 1971:215)

For both the leaders and the implementers of innovation, frequent periods of reflection are required, not only to determine the gap between the actual and desired state, but also as a motivating force to adopt and refine the innovation. Reflection is an essential component of successful innovation, a topic which is now examined.

REFLECTION

The technical notions of teaching have changed to a professional artistry in which teachers endeavour to find the 'best fit' between what they do and the prior experiences and learning styles of students (Stewart and Prebble, 1993). Needing to determine an appropriate teaching response necessitates teachers to *think about what they do as they do it*, in other words, reflection. Reflection is a critical component of effective practice. Dewey (1933) wrote of a reflection process which was characterised by doubt, uncertainty, focused inquiry and eventually a rational response.

The function of reflective thought is, therefore, to transform a situation in which there is experienced obscurity, doubt, conflict, disturbance of some sort, into a situation that is clear, coherent, settled and harmonious. (Dewey, 1933:100-101)

Such reflection is not readily achieved. Grimmett et al (1986:6) write of the paradox "that one cannot know without acting, and one cannot act without knowing." To be reflective in a teaching context is to consider a range of possible actions prior to moving to the next stage of the lesson, or prior to responding to class initiatives. This will often occur within a very short time frame. Successful reflection requires the teacher to be able to hold in her mind a suitable range of possible alternatives. It is often an unstructured and intuitive process. Questions which encourage the teacher to describe, inform, construct and deconstruct (Smyth, 1989) can assist in systematising reflection. Once a teacher has described his or her activities, and beliefs, it is possible to analyze them and deduce the underlying theoretical base. The role of observations, interviews and staff discussions is critical in developing reflection, as depicted in the *Emergent Themes*.

Griffiths and Tann (1992) suggest that there are at least five levels of reflection for both teachers and principals. These levels progress from basic and intuitive reflection to the more advanced. The first level is known as *Rapid Reactive Behaviour*, in which the teacher's reaction is immediate and based on minimal deliberation. The next level *Repair*, contains a rapid response also, but includes a pause for thinking on the spot. The teacher makes adjustments according to the verbal and non-verbal student feedback. A further stage is that of *Review*, which entails reflection after the event. Teachers often convert incidents into stories and metaphors which are shared with other staff. To go beyond superficial reflection however, the fourth level

involves *Research*. This stage incorporates many activities of the former levels, such as observing systematically, but it also involves rigorous analysis, evaluation, planning and modified practice. Finally, the *Theorising and Reformulating* level includes activities of the research level, combined with the derivation of theories on which to devise future plans and action.

This level of reflection is more abstract and precise and is likely to take place over a longer period of some months or perhaps a year. Appropriate theory applicable to the ideas and events under discussion needs to be both readily available and critically read. It is likely that teachers' own personal theories will undergo some reconstruction and accepted public theories come under challenge... There is clearly a need for some sort of regular forum where teachers can engage in this sort of shared reflection. Without such a forum there can be no assurance that teachers will engage in higher level reflection on their daily work. Teachers need an opportunity to re-examine what they have taken for granted, and to adopt a fresh perspective on what may have become all too familiar. (Stewart and Prebble, 1993:127)

In order to develop these theories-in-action we must observe a person and derive them from his or her actions (Argyris and Schon, 1974). This is because theories-in-use are based on assumptions and such tacit or implicit knowledge is often difficult for a person to make explicit. What Schon (1983) calls 'knowing-in-action', is what some teachers engage in while thinking about what is happening and how their actions are affecting the learning situation. It is usually stimulated by something puzzling, unexpected or particularly interesting. While trying to make sense of it, the teacher reflects on understandings which have been implicit in the understanding, and thus surfaces, criticizes and restructures thoughts before embarking on further action.

As the teacher encounters multiple teaching experiences this art, or practice, is extended to encompass a wide repertoire of expectations and techniques. The knowing-in-practice becomes increasingly tacit, spontaneous and automatic. Knowledge becomes implicit rather than explicit. Only through reflection can the understandings be surfaced, criticized, made explicit and be more deeply developed.

When someone reflects-in-action, (s)he becomes a researcher in the practice context. (S)he is not dependent on the categories of established theory and technique, but constructs a new theory of the unique case. (Schon, 1983:68)

While reflecting in action the practitioner reframes the problem. The ability to solve new problems and appreciation of the unintended effects of action leads to higher levels of reflection. It is the ability to perceive new situations as familiar ones, which enables individuals to bring past experience to bear on the unique case. Paying attention to new phenomena allows the person to experiment, to test hypotheses and extend one's own understanding.

Awareness of one's intuitive thinking usually grows out of practice in articulating it to others. The role of an outsider is often crucial in stimulating initial reflection, and

indeed in lifting it to a higher plane, for in describing the situation to the outsider and providing evidence and examples to illustrate the case, the teacher is then able to analyze the situation in greater detail. More discussion on the role of the outsider in stimulating reflection occurs in chapters four and eight.

Reflection is a pivotal factor in this review of related research. An understanding of the knowledge base of Achieve, namely components and fundamental principles of individualised and cooperative learning programmes, is important for the teachers of the programme and for those who wish to study Achieve. However, reviewing the research is not sufficient in itself, for this knowledge does not automatically translate into practice. Each innovative programme necessitates specific modification and adaptation of theoretical principles. Determining which particular principles are relevant to a specific programme requires a *process of reflection*, and indeed critical discussion, within the learning community. Action research enhances comprehensive implementation of innovative programmes through a process of reflection and critical discourse on the theoretical base (in this case, individualised learning in particular), since it challenges and develops understandings, and improved practices.

CONCLUSION

Because each school culture is different with its own unique approach to change and innovation, it is important for teachers to be critically reflective in the process of innovation. Although this review has highlighted important features of individualised learning programmes, such as goal setting, contract learning, attention to motivation, and monitoring of students, it has also intimated the difficulties and pitfalls of realistic practice. Some insights have been gained into the struggles of teacher and student control over learning, implicit understandings of individualised and cooperative learning, the difficulties of implementing innovation, the absence and subsequent development of teacher reflection and the modification of practice in the light of data analysis and critical discussion, but further contribution is made to this understanding through the action research study of this thesis. The contradictions between the ideal and the actual practice of an individualised programme, Achieve, is the subject of the chapters on *Five Cycles of Action Research in the Achieve Programme* and *Emergent Themes*. Prior to that, some understanding of action research is required in order to more fully comprehend the process of innovative implementation. Action research enhances understanding of the means of explicating and overcoming the apparent contradictions in individualised and cooperative learning programmes through a process which problematises these very issues. The discussion now turns to consider the methodology of action research.

CHAPTER FOUR

METHODOLOGY IN THEORY

INTRODUCTION

Action research is a research methodology that has grown in popularity in recent years. Evidence of this growth is witnessed by the proliferation of support networks, such as CARN (Classroom Action Research Network). The popularity of action research is due to the quest to narrow the gap between theory and practice, and in its capacity to empower participants. Although action research has application in a variety of professional fields, the focus in the present thesis is on its application to education. Considerable development has occurred not only in methodology but also in the theoretical basis of action research. Diversity of application and implementation has led to contradictions, challenges and developments to its philosophical base. In order to consider these multi-faceted dimensions of action research this chapter on *Methodology in Theory* examines the theory of action research in five dimensions. (The actual application of this theory to practice in the present study forms the subject of the subsequent chapter, *Methodology in Action*).

Action research methodology is discussed in this chapter according to five key theoretical questions:

1. What are the origins of action research?
2. What is action research and its essential principles?
3. What procedures are commonly associated with action research?
4. Is action research a standard procedure throughout the world?
5. What contradictions arise in action research?

1. WHAT ARE THE ORIGINS OF ACTION RESEARCH?

This section of the chapter depicts broad historical developments in action research, highlighting the emergence of fundamental understandings, tenets and principles. Key themes of the thesis are consequently introduced but their more detailed discussion occurs in subsequent chapters.

Action research contains elements of philosophy, sociology and social psychology. Its origins are commonly associated with the work of Kurt Lewin in the 1940s (Kemmis and McTaggart, 1982; Elliott, 1988; Somekh, 1988; Jansen, Koek and Mallekoote 1991; Noffke, 1992; Adelman 1993). Lewin developed his ideas in a variety of contexts, such as housing, employment, youth and general community projects; in which group decisions and commitment to improvement were central ideals. Original insights at this time related to the importance of involvement in decision making by those people most affected by the decisions (Kemmis and McTaggart, 1982). Involvement was seen to benefit groups by their participation in evaluating improvements and subsequently actioning agreed strategies.

Action research for Lewin was exemplified by discussion of problems followed by group decisions on how to proceed. Action research must include the active participation by those who have to carry out the work in the exploration of problems that they identify and anticipate. After investigation of these problems the group makes the decisions, monitoring and keeping note of the consequences. (Adelman, 1993:9)

Lewin wished, therefore, for a closer link between planning and action, theory and practice. Nevertheless, Lewin's research demonstrated that work could become meaningful and alienation could be reduced when people were involved in participatory decision making processes. He believed in studying things by changing them in natural situations. Typical of educational administration theories of the time, such as bureaucratic theories, human relations and systems approaches, Lewin's focus was primarily on the group or organisation itself, and minimal attention was paid to wider social pressures. Lewin and early action researchers did not recognise the political dimensions of action research.

This concentrated focus on the organisation itself was maintained in the 1950s with Corey's research. Corey related action research to the classroom teacher, emphasising its natural application:

Action research represents little more than a refinement of a process every teacher goes through as [s]he tries to improve... [s]he needs to be increasingly exact, objective and scientific. Teaching and learning situations need to be based on understanding both the culture and the way children learn and testing the effects of their teaching against 'dependable and appropriate evidence.' (Corey, 1954:208; cited in Noffke, 1992:17)

Corey recognised the value of rigorous data gathering, but also the importance of personal relationships among those involved in the process of change in the teacher's workplace. He noted school structural constraints for teacher observation:

More time was needed during the school day for planning, data gathering, and interpretation, and resource discovery or development was essential... The resolution of this problem rested in administrative support and restructuring, not in having teachers add something to their work. (Corey, 1954:80; cited in Noffke, 1992:18)

Concerns related to integrating research into the normal practice of teaching rather than imposing it as an extra demand on teachers. The involvement of the whole school (community) is implied; particularly with the necessary administrative support from the school's senior management team. However, Corey was a product of his time and did not question the wider societal and political structures imposed on the school. Discourse attributed school change to administrative support, not the cultural milieu in which the school was placed.

Direct application and development of the theory of action research in education was

not widely known until the 1970s with the published work of Stenhouse. Stenhouse's work in the Humanities Curriculum Project stimulated considerable interest in action research. His primary contribution related to the development of teachers' reflective capacities. A brief explanation of the project is pertinent here. The research team discovered that teachers expected the researchers to confine their attention to the development of curriculum materials, and when the team endeavoured to provide evaluative feedback teachers suspected them of manipulation of data for their own ends (Elliott, 1988). Unequal power relations between teachers and the research team became evident. The research team had to resist teachers becoming reliant on them for their self-understandings. Such experiences led Stenhouse to conclude that successive curriculum change depended on the development of teachers' capacities for self-analysis and reflection (Elliott, 1988).

Considerable experimentation occurred throughout the Humanities Curriculum Project in an endeavour to promote teacher self-reflection. Development of the concept of the 'teacher-as-researcher' arose and soon became 'teacher-as-action-researcher' with Elliott's influence. The project team encouraged teachers to experiment with teaching strategies and focus on problematic behaviour patterns. The results were frustrating:

I would argue that in the Humanities Project we never satisfactorily resolved the issue of how one facilitates autonomous reflective practice... Both the list of experimental action-strategies and the self-training procedure were structured by the project team's understanding of pedagogical aims and principles. (Elliott, 1988:32)

Contributions to the understanding of action research and the role of outsider and insider relationships were advanced however.

The attempts of the Humanities Project team to facilitate reflective practice in schools generated an important conceptual distinction between the 'research' role of the outsider in relation to the 'research' role of the insider-practitioner. Stenhouse contrasted the first-order inquiry of the teachers with the second-order inquiry of the central team. The teacher's inquiry was focused on the problems of developing pedagogical strategies consistent with educational aims and principles. The team's inquiry was focused on the problems of facilitating teachers' reflective capacities... Increasing reflexive awareness amongst the central team of the hidden forms of control they exercised over teachers' practical thinking - how to facilitate such thinking, without manipulating and distorting it for our own ends, became a major focus for reflection and discussion. (Elliott, 1988:32)

A distinction was made between the action research of outsiders and that of the insider-practitioner. This concept, along with that of reflection, became a major focus of the action research literature in the late 1970s and early 1980s. Elliott reflected on his experiences with Stenhouse's research and further developed the notion of the insider-practitioner in the Ford Teaching Project. Elliott and Adelman involved more than forty teachers in twelve schools undertaking action research into

problems of implementing inquiry and discovery methods in their classrooms.

The classroom action research was designed as a cooperative rather than an individual endeavour aimed at generating shared insights and practices as teachers tested each others' hypotheses in a range of contexts. (Elliott, 1988:38)

Despite intentions of teacher initiation of assistance, the researchers had to be proactive in offering analytical support. The researchers had to negotiate access into classrooms of teachers who appeared ready to reflect on their teaching. As these teachers became more involved in collecting and discussing data about their own teaching, they developed a critical awareness, reflexivity and pedagogical theories grounded in practice (Elliott, 1988). Reflective practice was therefore further explored, but the issues of establishing critical discourse and support for teachers were yet to be resolved.

The growth of school based curriculum development and a growing awareness among teachers seeking new ways of working and understanding their work emerged. At this time of increasing attention to teachers' own reflective processes, theorists derived deeper understanding from the work of Schon (1983, 1987). Schon's books related to the notions of reflective practitioners and developing professionalism, highly relevant to action research thinking at the time. In practice, situations were shown to be uncertain, indeterminate and containing a conflict of values, purposes and goals (Schon, 1983). Despite former claims of positivist research, professionals could not rely on written theories to guide their actions. Instead, according to Schon, professionals had to experiment with their practice and develop a repertoire of expectations, skills and techniques. The problem arose however, that the more the professional practised such strategies the more automatic and tacit they became. Additional new learning was only possible when professionals reflected on their tacit knowing. To recognise the uniqueness of new situations, while simultaneously applying proven strategies required reflection-in-action, experimenting and hypothesis testing.

Hypothesis testing is initiated by the perception of something troubling or promising, and it is terminated by the production of changes one finds on the whole satisfactory, or by the discovery of new features which give the situation new meaning and change the nature of the questions to be explored. (Schon, 1983:151)

Schon recognised the dilemma of the professional with the urgency to act, often before all factors are considered. Reflection-on-action therefore, was the result of retrospective thought after the action. Distinctions between reflection-in-action and reflection-on-action further stimulated its application to the developing theory of action research. The topic of reflection is discussed in greater depth later in this chapter.

Concurrent with the developing notions of reflection were those of critical theory and

its relationship to action research. Habermas was at the centre of the 'Frankfurt School' movement and the origins of critical theory, which were to have a strong influence on action research. Although numerous writers were exploring related concerns (such as McTaggart 1981; Elliott, 1987; Winter 1987), the Deakin school was most directly associated with this critical theory movement. Carr, Kemmis, Walker and McTaggart questioned the limited value of school-based curriculum and teacher development without attention to wider social and political issues.

We know that sustainable improvements in education cannot normally be achieved without teachers' commitment to the intellectual and scientific task of researching their own practice, as a part of the wider process of improving the curriculum, the school and the work of education for communities and whole societies. (Kemmis, 1989:2)

Kemmis believed that Stenhouse underestimated the significance and power of social movements and placed too much faith on the commitment of the social order to changing itself. Kemmis (1989) advocated the use of metatheories and metapractices; the latter concerned with social practices that structure, constrain and constitute conditions for other practices. The very nature of the language (discourse), patterns of behaviour and organisations were questioned. Rigours of research were demanded and the abstraction of the theory of action research came to the fore. Notions of emancipation, critical discourse and democratic processes were hotly debated.

In contrast, academics in the UK advocated teacher support and promotion of the teacher as action researcher. As intimated above, Lewin's vision was of an outside researcher working in close collaboration with participants. Elliott and Adelman developed this concept of teachers as co-researchers with outsiders in the Ford Teaching Project. Further development occurred with the teachers in "The Teacher-Student Interaction and Quality of Learning Project" when Elliott and Ebbutt encouraged teachers to become teacher researchers with an outside facilitator, supported by an in-school coordinator. INSET coordination facilitated teacher researchers with a minimal level of support from the outside, having the potential to integrate teacher research with the management and development of the school as a whole (Somekh, 1988). Establishment of support networks, such as CARN, have also enhanced the intention to place the teacher, rather than the academic, at the forefront of action research methodological advancements. Incorporation of research projects into post-graduate programmes at the Cambridge Institute of Education and the University of Bath continued the growth of action research.

This brief sketch of the major historical developments in action research has intimated a number of trends which are explored in greater depth throughout this thesis. The tension between theory and practice, individual teacher development and collaborative networks, teacher autonomy and centralised curriculum control, academic and practitioner language, values and procedures continue to underlie the understanding and implementation of action research. Each of these concerns is addressed, with attention now focused on clarification of the term 'action research' and its fundamental principles.

2. WHAT IS ACTION RESEARCH AND ITS ESSENTIAL PRINCIPLES?

In this section several definitions of action research are examined with the intention of highlighting fundamental understandings and principles of action research. The paradox of defining terminology while being responsive to contextual demands is explicated, and the notion of contradictory principles within the study of action research is advanced.

Elliott offers a simple and succinct definition of action research as:

the study of a social situation with a view to improving the quality of action within it. (Elliott, 1981:1)

Action research can therefore be considered relevant in any social setting. It is concerned with change (improvement), not merely monitoring but actually executing change. Although Elliott's definition is tantalizing in its simplicity, various terms require elaboration. Firstly, what is meant by study? Bogdan and Biklen (1982:215; cited in McKernan, 1991:4) state that action research:

is the systematic collection of information that is designed to bring about social change.

Some rigour of 'scientific' research is implied in this definition. Action research encompasses more than intuition or spontaneous discussion. The word systematic, implies that data collection occurs over a period of time, that it is planned and has the ultimate purpose of social change. However, the systematic collection of information does not in itself ensure change. Processing of the information is necessary, but by whom and how? Exactly what data ought to be collected and which methodologies are most appropriate, are not explicated in this definition. Of paramount concern are neglected questions: who collects this information and for what particular purposes?

Carr and Kemmis (1986:162, cited in McKernan, 1991:4) postulate a definition rooted in critical-emancipatory terms:

action research is simply a form of self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own practices, their understanding of these practices and the situations in which the practices are carried out.

Carr and Kemmis' definition, while indicating elements of critical theory, also incorporates ownership of the enquiry, being that of the participants, that is, those people who will be affected by any subsequent action. This belief is associated with Lewin's assertions in section one above, of the importance of involving workers in decisions. The definition implicates the prime, indeed sole, responsibility of enquiry by participants, that is, insiders rather than outsiders. Not only do the participants collect the data, but they also analyze it to understand and justify their practices. Each participant must understand and justify his or her **own** practices, and the

circumstances surrounding the practice. Process and product are deemed important, for the situations in which the practices occur are also included. The means and the ends must be linked in just and rational processes. Understanding per se is not the only purpose of action research, as improvement is inextricably intertwined, signifying that actioning of improved process and product is the essence.

The notion of collaborative teacher-researcher projects appears to be downgraded in this definition, for of prime concern is self-reflection. Rationality and justice of their **own** practices is emphasised by those involved in the social situation. An in-depth understanding of the culture is required, and if long-term action is the heart of action research, then only participants can be ultimately responsible. Consideration of what constitutes rationality and justice is significant, but is more germane later in this chapter. Another issue is important here. Is a social situation merely that, or is action research applicable to formal organisations, and in particular, schools?

Watt and Watt (1993:36) highlight the relevance of action research to the study of education and schools:

Action research is a systematic inquiry by collaborative, self-critical communities of teachers which takes place in schools, out of the need to improve educational knowledge and practices.

In this definition the concepts of systematic inquiry, communities of teachers (that is, the participants within the social situation), and improvement are in agreement with earlier cited definitions of action research. New insights incorporate concepts of 'self-critical communities', 'collaboration' and 'educational knowledge and practices'. The influence of studies of both reflection and critical theory are evident here with the notion of self-critical communities. As Somekh (1989) maintains, action research is a value-laden, moral activity. Knowledge is constructed by each individual through a process of reflection through action, or as a result of in-depth discussion with others. It is contextualised and is necessarily reflective because people become trapped in a web of personal and professional responses and actions (Schon, 1983; Somekh, 1989). It is only by developing a critical awareness that participants can discern deeper insights into their own activities and wider social or political implications.

In the Watts' above cited definition, the goal of improvement not only in practice but in understanding and educational knowledge, elevates the status of teachers to that of researchers. Teachers are promoted to an equal footing with academics in the generation of educational knowledge. It is only in situations of equality that true collaboration can arise. Kyle and McCutcheon (1984) write of such collaborative research between teachers and researchers. They deplore the consultant relationships of most teacher-researcher activity and instead advocate equity in the research role. This equity necessitates incorporation of teachers' more practical concerns and questions into the research design itself, considering perceptions of classroom events from both the teachers and outside researchers' perspectives, and encouraging teachers to contribute to the theoretical writing. New issues arise in allocating

appropriate roles and responsibilities, choosing the approach and identifying partnerships with the requisite interpersonal, communication and reflective skills.

Sharing of expertise within self-critical communities is possible however, when knowledge is seen to be constructed by each individual, not something which can be packaged and passed on to others (Somekh, 1989). Meaningful dialogue or discourse can only occur when a common language is spoken. Language is culturally and structurally bound, and thus resorting to academic jargon is violating the concepts of community and collaboration.

It is these notions of language, equality and importance of context that led writers such as Hustler, Cassidy and Cuff (1986); Somekh (1989); Ovens (1991); and Johnston (1993), to argue against defining the term action research. Logically a definition of action research would be a denial of principles of participation, self-realisation and collaboration.

A definition would set out to be authoritative and deny participants in action research the power to develop their own principles and procedures. (Somekh, 1989:25)

The difficulty in defining action research is due partly to its diverse applications to a variety of educational problems and contexts. A tight definition would necessarily restrict its application, while a general definition would be open to misinterpretation. Nevertheless, elements of rigour must be maintained, for otherwise it is unclear whether an approach is using the action research label falsely, or whether it is a genuine attempt to adapt action research to a specific context or problem. The tension between research and action, and between theory and practice are therefore evident; an issue which is addressed later in the chapter.

Resolving the issue of a carefully defined, precise agreement on what constitutes action research without being unduly restricted, requires a different conception. According to Johnston (1993), a useful approach has been to define certain principles which should underlie action research and to describe the type of inquiry in which participants should be engaged. What principles of action research are agreed upon?

Copious principles of action research abound in action research literature. To provide structure to the following discussion, principles are organised into three broad headings: those related to organisational culture, mode of enquiry, and effects.

Culture

The most general feature of action research is its naturalistic setting. There is no attempt to control setting variables, but rather to study the situation in-situ. As noted above, Schon (1983) argued that practitioners, and indeed professionals, were not able to rigidly apply abstract theories in their work. Professional skills required recognition of both the unique features of the situation and the factors of commonality. Some reflection-in-action was necessary to derive an appropriate

solution to an emerging problem. Thus, action research offered a realistic approach to studying the complexity of modern organisations, and schools in particular.

Lomax (1991) noted the importance of action research being responsive to the context. As a consequence, action research operates in the tension between its two ideals of rigorous application of theory and continuing openness to development of practice. Relevant everyday practical problems, difficulties or situations of interest are generated by the practitioners themselves; not theoretical ideas imposed by outside researchers. Inevitably, some compromise between the theory of action research and its practical application occurs. To artificially impose action research on teachers, interferes with the natural setting and removes control of the process from the participants. When problems are owned by the participants, commitment to the process and the consequences of intervention occurs. Freedom to experiment is paramount (Lieberman, 1986), if teachers are to discover improved understandings and ways of operating. Motivation to experiment arises from investigation of relevant problems which the teacher wishes to improve in his or her own setting. Appropriate methodologies will be context-specific, not necessarily adherent to academic principles.

Freedom to experiment is only possible in environments promoting self-determination and equity. Where each individual is encouraged to examine her own practices (cf Carr and Kemmis, 1986:162) and recognised as a researcher in her own right, then empowerment of the participant to change her own circumstances occurs. Action research can be emancipatory when free participation occurs, giving increased autonomy through collective reflection.

Taking action in a social situation can be political for frequently the status quo is challenged and relations of power altered (McTaggart and Singh, 1986). Improving practice means taking a broad, historically sensitive, socially and politically aware perspective in action research to improve educational practice.

As well as providing a context where valued practices might be protected and developed, institutionalisation produces bureaucratization, routinisation, hierarchial inertia and instrumentalism. Action research immediately throws into question the capacity of the institution to fulfil its promises, to live up to its principles. Action research problematises the values of the institution and its constituents by questioning both institutional ways of working and the context the institution affords for the construction and reconstruction of practices. (McTaggart and Singh, 1986:43)

Awareness of problems and contradictions arises through reflexive practice. Winter (1989) explains reflexivity as a questioning process, as a way of appraising a statement and generating possible alternatives to counteract taken-for-granted interpretations. Reflexivity relates to the art of dialectics; the art of asking questions and seeking truth. The person who knows how to ask questions is able to persist in her questioning, which involves being able to preserve her orientation towards openness (Larter, 1989). Internal contradictions can then become evident. According

to Winter (1989), the fundamental contradiction within each phenomenon between its unity and its diversity signals the process of change. This instability leads to change. Once participants realize the temporary and situational basis of knowledge, they are more likely to generate their own understandings. Every person's point of view is taken as a contribution to the resources for understanding.

Differences between viewpoints constitute serious challenges or questions regardless of the social status of the member who puts it. Focusing on the contradictory elements of a viewpoint enables us to give full recognition to those fleeting glimpses of ideas which we normally dismiss as 'irrelevant' because they don't fit in with the rest of our conceptual framework. (Winter, 1989:57)

The art of dialectics also implies objectivity. Objectivity in this sense presupposes an exploratory stance, an awareness of one's own value biases, a willingness to make them explicit and an open attitude towards the evidence. This process can only occur where there is a free flow of information amongst participants, within a mutually agreed ethical framework (Elliott, 1978). Basic respect for individuals, confidentiality and negotiation are at the heart of an effective action research culture (Watt and Watt, 1993).

In sharing information in dialogue and discourse participants risk former taken-for-granted assumptions, their status and control. Encouraging participation and collaborative relationships requires equality and democracy between researchers and practitioners, and amongst practitioners as one's subjectivity is challenged (Winter, 1989).

A central challenge in supporting action research by teachers is to create the context for shared honest inquiry and real learning among participants. (Watt and Watt, 1993:38)

Creation of a school culture of support is critical to effective action research. The process of consultations required to decide on an issue of concern requires skills and strategies not always familiar to participants (Johnston, 1993). Some relatively junior members of staff have neither confidence nor influence to organise necessary discussions within their schools.

School-level changes require a different set of skills because of the need to work with other teachers, both individually and in groups. The social and political context of the school setting becomes more important, as does the level of influence of the teachers attempting to bring about change within the school. The issue of power is important in school-level change. It is more likely to be successful when senior administrators are involved. They tend to be more skilled and able to use organisational and communication channels. (Johnston, 1993:24)

Johnston argues that the reality of life in schools challenges the basis of the principles

of equality, collaboration and critical communities. Other constraints affecting school communities include: lack of time and resources, and lack of research skills (McKernan, 1991). Subtle undercurrents among the staff may make it impossible for any individual or group within a school to initiate or sustain collaborative research (Forward, 1989).

Carr and Kemmis (1986) advocate the establishment of critical communities, particularly with the principle of participation (that those people who will be affected by the research ought to be involved) but in certain circumstances existing communities actually inhibit rather than enhance the course of action research. The heart of action research is the self-reflective individual (Whitehead, 1993). Indeed, Stenhouse argued that the outstanding characteristic of the professional teacher moving towards emancipation is:

..the capacity for autonomous professional self-development through systematic self-study, through the study of the work of other teachers and through the testing of ideas by classroom research procedures. (cited in McKernan, 1991:48)

Although ultimately the person needs a critical community to validate theories through practice, triangulation and cross-perceptual studies; the individual may initially make greater progress working alone if the environment is not conducive to collaboration. Naturally, working on the social situation would be an ultimate goal of such a situation, but the relevance of the person's problem, in a setting over which she has control, is the essence of action research. This is what is meant by negotiation and responsiveness to context, for some principles of action research may need to be temporarily suspended in order to fulfil other principles.

Johnston continues in her concern for the realities of conducting action research:

Coping with resistance from other staff members could be a problem. Tripp (1980) mentions how our own personalities and social relationships may act as constraints and that possible courses of action open to us are determined by the amount of risk we are prepared to take (163). (Johnston, 1993:25)

The relevance of support networks such as CARN is presently highlighted. Questioning of established practices is only possible in a climate of support and openness where individuals feel safe to take the necessary risks. Projects such as TIQL, and PALM indicate the success of working with committed teachers who were supported by a small group of teachers within their schools. Not all staff need to be involved from the outset, although significant social and political change will necessitate larger groups of people being involved. Beginning with the individual teacher was successful in TIQL. Elliott (1978:167) provides some cause for hope in a less than conducive environment:

My experience has always been that teachers tend to develop critiques of the macro-context of their practices during the processes of reflectively developing

and testing their practical theories.

A self-critical stance enhances this process of reflection, deliberation, and integration of theory and practice. Action research is intended to be more rigorous than informal contemplation and thus consideration of relevant modes of enquiry is important. Application of appropriate methodology is vital not only to the validity and reliability of the research, but also to the development of a critical community and ultimately, improved understanding and practice.

Mode of Enquiry

Action research employs a wide range of techniques, the details of which are the subject of the following section in this chapter. The point here is that action research is based on empirical evidence. Detailed written records of observational data, hunches, opinions, insights and other data (refer to the section on procedures below for details) confirms that action research is not pseudo-research but a disciplined form of enquiry with a clear methodology rigorously applied.

By stating problems, formulating action hypotheses, planning data collection, analyzing results and reformulating hypotheses, the action researcher exercises rigorous scientific principles of procedure. Theories are validated through practice, governed by the criteria of fairness, relevance, and accuracy (McTaggart, 1991).

Validity is one of action research's fundamental problems: limited in data, lacking an external 'uninvolved' observer, its theorizing enmeshed in its practical interests, in what sense can action research claim to be objective or valid? (Winter, 1989:36)

Winter (1989) argues that action researchers need to question and test opinions, beliefs, assumptions and ideologies, so that eventually the understandings and practices are more securely based (more valid) than at the outset of the study. Only when procedures are systematically grounded in justifiable and coherent principles is there reason for thinking that one's conclusions are more than the result of personalities, emotions or expediency (Winter, 1989). Ebbutt and Elliott (1985) argue that disciplined inquiry means that arguments and evidence can be examined, that an argument is not dependent solely on its eloquence or surface plausibility, that sources of error are avoided when possible and that conclusions discuss the margins for error, and that ideas are "speculative, free-wheeling and inventive". (ibid:11)

Internal validity is present when an author:

demonstrates that the changes indicated by his or her analysis of a problem constitute an improvement. Such an account would therefore need to contain not only an analysis of the problem but an evaluation of the action undertaken. An account can only be judged to be externally valid if the insights it contains can be generalized beyond the situation(s) studied. (Ebbutt and Elliott, 1985:11)

Other researchers, such as Forward (1989), argue that the more detailed the research methodology, the more convincing and valid is the study. The fundamental question of validity of any study concerns whether the findings presented seem to reflect the evidence which has been collected, the supporting and contrary arguments (McTaggart, 1991). In action research a more stringent test of validity is the judgement of theoretical insights in the contribution to the improvement of practical action (Altrichter, Posch and Somekh, 1993). The use of a range of techniques, for instance, detailed descriptions of situations, events, people and interactions, together with the use of direct quotes, interviews and questionnaires enhances validity of the data, particularly when qualitative and quantitative data are juxtaposed.

Justification of research can be upheld by reasoned argument which takes into account ethical, cultural, social and pragmatic considerations. This will only be temporary however, for the ultimate test of the research is the harmony between ideas and action. Theory itself is always open to question for the outcome of one phase of practical development will be a need and opportunity for further theoretical work. Theory and practice continually transform each other, providing new insights and alternative ways of viewing former tacit knowledge.

Theory and practice do not therefore confront one another in mutual opposition: each is necessary to the other for continued vitality and development of both. (Winter, 1989:67)

Triangulation ensures that the study is methodologically eclectic, innovative, yet seeking congruence and incongruence amongst at least three distinct viewpoints (such as researcher, teachers and students). It also encompasses examination of evidence from different angles. By collecting data from different perspectives, double-checking findings, using multiple sources and modes of evidence, ensues that the verification process is built into the research methodology (Forward, 1989). It is the process of triangulation that provides action research with its reliability and validity. Reliability is related to congruence of data, the verification of theories amongst participants and the application to practice, rather than generalisability. Cross-perceptual studies, pursuing the views of different groups, such as teachers, students, parents and researchers points of view in a school community allow comparison and stability indicators of the extent of opinions held. Ultimately, action research is validated through practice.

Effects

Action ultimately encompasses improvement of understanding, problem definition and practice. It is strategic in aiming to resolve practical problems in naturalistic social contexts. The key principle is whether or not the action research has transformed the theory and practice of the participants in their search for improvement of practice. A critical component in this process is the utilisation of appropriate procedures, within a coherent model. The relative importance of the various principles cited above, depends on the fundamental conception or model of action research envisaged by the researcher. Using McKernan's (1991) typology of three models, namely:

scientific, practical-deliberative and critical-emancipatory, the major models of action research are now considered.

Scientific

Lewin believed that action research required group participation through democratic processes based on careful planning, analysis, fact-finding and evaluation; closely related to rational scientific methodology (McKernan, 1991). He advocated field experiments to enable the individual to gain the situational practical knowledge on which to effect social improvement. Systematic procedures were advocated in a spiral of steps, each of which is composed of planning, action and the evaluation of the result of the action.

The cyclic nature recognized the need for action plans to be flexible and responsive. Given the complexity of real social situations it is never possible in practice to anticipate everything that needs to be done. Overlapping of action and reflection enabled changes in plans to be implemented for action as people learned from their experiences. In practice, the process begins with a general idea that some kind of improvement or change is desirable. The general idea prompts a reconnaissance of the circumstances of the setting and fact-finding. Having made a preliminary reconnaissance, the researcher then decides on a general plan of action. As the step is executed, new data, conditions and effects occur. On collecting data, analysis and evaluation occurs, and a new plan of action is devised. This spiral is then continuous.

Kemmis and McTaggart (1982:3) provide a clear and succinct explanation of Lewin's cycle as four moments of action research:

- * to develop a *plan* of action to improve what is already happening,
- * to *act* to implement the plan,
- * to *observe* the effects of action in the context in which it occurs, and
- * to *reflect* on these effects as a basis for further planning, subsequent action and so on, through a succession of cycles.

Kemmis and McTaggart (1982) provide a cautionary note that the plan of action must be flexible enough to adapt to unforeseen effects and unexpected constraints. The plan should empower participants to act more appropriately and effectively as educators. Implementation of action plans involves material, social and political struggles towards improvement. The plan acts as a guide but not a constraint. Observation documents the effects of critically informed action. It is planned, yet observation is also responsive to the unexpected. Observation provides a basis for critical self-reflection. Finally, reflection makes sense of the processes, problems, issues and constraints. Through discourse, group reflection leads to the reconstruction of the meaning of the social situation and provides a basis for the revised plan.

Constraints in reality often cause these 'moments' of action research to occur in different sequences, as is highlighted in the practical-deliberative approach.

Practical-deliberative

According to McKernan (1991:20), the practical model of action research incorporates "human interpretation, interactive communication, deliberation, negotiation and detailed description." The goal is understanding practice and solving immediate problems. Consequently, the process needs to unfold naturally, rather than be restricted by demands of measurement and control. Elliott therefore has more loops off his spiral of action research, allowing for emerging events and findings to be immediately incorporated into the action research process, rather than at the end, which Stenhouse's conceptualisation stipulates.

Elliott (1977, 1985, 1987) refined the pedagogy for this model in the Humanities Curriculum Project and with Adelman in the Ford Teaching Project. Reflective and deliberate action is an important component. Elliott promulgated the theoretical dimension of teaching, arguing that the task for practitioners was to interpret everyday practice in terms of a developing self-reflective hypothesis. Central to Elliott's argument was the idea that:

the action researcher develops a personal interpretive understanding from working on practical problems and the theoretical understanding is constitutive of practical action and discourse. (Elliott, 1987:157)

Elliott believed that action research was a moral endeavour in that it sought to realize values in practice. The complex nature of teaching and learning necessitated greater flexibility in the research process. Ebbutt argued that a spiral model was restrictive, and that a series of successive cycles, each incorporating the possibility of evaluative feedback within and between cycles of action was more practical (McKernan, 1991). Elliott contended that the general idea should be allowed to shift, and that reconnaissance should involve analysis as well as fact finding.

Elliott (1981) maintained that the first activity in action research is identifying and clarifying the 'general idea'. If this stage is thoroughly investigated the 'real' problem may be unearthed. To facilitate the process the second phase concerns reconnaissance, that is describing and explaining the facts of the situation. In explanation, the action researcher moves from description to critical analysis - brainstorming and hypothesis-testing. In hypothesis formulation, three ingredients are deemed to be important: description of certain contextual factors, description of either the improvement desired or the situation which needs to be changed, and explanation for the relationships cited in the hypothesis (Elliott, 1981).

The third phase involves constructing the general plan. This includes a revised statement of the 'general idea'. Consideration of the factors one is going to change or modify in attempting to improve the situation and the intended actions to direct the change ought to be specified. Required resources and an ethical framework encompassing issues of confidentiality, negotiation and control of information need to be stated (Elliott, 1991).

The fourth phase includes development of the action steps, that is, designing

appropriate methodological procedures for conducting the research. A full list of such procedures is included in the following section of this chapter. Implementation is the next logical phase, which requires careful monitoring for anticipated and unanticipated consequences. The cycle of activities continues indefinitely.

Critical-emancipatory educational action research

The 'Deakin' model of Kemmis, Carr and McTaggart, depicts a more dynamic process in which each of the four steps: planning, acting, observing and reflecting are seen as interactive processes.

In the process, the aim is to bring together through mutual attraction, discourse and practice (in the one dimension) and construction and reconstruction (in the other), so that improvements in practice and in understanding can be made systematically, responsively and reflectively. (Kemmis and McTaggart, 1982:6)

In creating a dynamic interaction amongst the various phases of the action research, Kemmis and McTaggart maintain that a deeper rationale arises, allowing for the grounding of a critical theory and thus creating meaning for the participants. An essential component is the need for participants to communicate with others and engage in discourse. Reflection is aided, clarification of issues is made possible, as is the generation of moral support.

The 'stranger' is invaluable. The disjunction of relevancies can serve to make more explicit the action researcher's own practical concerns as well as the more taken-for-granted features of day-to-day practice. (Hustler et al, 1986:210)

This critical enquiry enables participants to develop interpretive meanings and organize collective action to overcome constraints. Emphasis is placed not so much on technical skills as discursive, analytical and conceptual skills. Developing self-reflective groups and critical-emancipatory action research enables curriculum problems to be perceived as value-laden and moral concerns, rather than solely technical. The struggle is therefore concentrated on rational, just and democratic forms of education, rather than everyday practical concerns of practitioners. Teachers are not empowered merely by becoming more reflective and in constructing knowledge, but by acquiring influence in the development of educational policy (Somekh, 1989).

The essential difference amongst the three models is that Lewin's cycle is one of a general, yet technically systematic process. The Elliott model is primarily concerned with daily practicalities of improving understanding and practice of teachers, while the Deakin model is less concerned with specifics, and more concerned with social issues of emancipation.

Again the danger in clarifying models and processes of action research lies in the reification of process. The common representation of the action research cycle is

theoretical and hence generalised and idealized (Tripp, 1990). It does not appear to allow for the inevitably more complex nature of the cycle as it actually proceeds in practice in a particular instance. The different moments contain aspects of all the other moments within themselves (Tripp, 1990). Action research involves a process of reflection on reflection, but it can never be exhaustive, never 'arrive' at an end point of full understanding. The other complication is succinctly described by Cummings and Hustler (1986:39):

Action research cannot be pre-planned or pre-structured in the way traditional experimental procedures demand. As the research develops, so do ideas develop which can lead to action of some sort, which leads to more information and analysis... The goal is to illuminate, and if possible, attempt to resolve issues as the research develops. Action research involves action, which feeds back into the situation and can lead to unforeseen directions, which are followed up because it seems to the teacher at that stage of the research that it is worth pursuing them.

Action research is therefore an on-going process of defining and exploring problems, implementing and monitoring action, modifying the general plan, and continuing the cycle. Flexibility and responsiveness to the context are vital, while agreed principles and procedures govern the conduct of study.

3. WHAT PROCEDURES ARE COMMONLY ASSOCIATED WITH ACTION RESEARCH?

Because action research has the intention of improving both understanding and practice, a wide range of research procedures are appropriate. Each of these techniques is briefly considered.

Observational notes

Observational notes are the quintessence of action research in its naturalistic enquiry. As much time can be taken as is required to gain a representative sample of behaviour, both verbal and non-verbal (McKernan, 1991). Information needs to be gathered about the situation so that preliminary interpretations can be checked. Winter (1989) recommends that initial observations begin with general impressions and comprehensive description. These descriptions provide not only a baseline for later comparison but also as a validity check on participants' interview and questionnaire statements, and provide valuable data for triangulation. Bogdan and Biklen (1982) recommend writing such detailed observational notes that another person (a person from the moon) reading the notes would be able to recognize the location, personnel and atmosphere (culture).

Observations can include vivid descriptions, time or event sampling, verbatim comments or running commentaries (which endeavour to record all speech and reactions of the participants over a specific time span). Collecting observational notes is however, time-consuming and can be an artificial imposition on a situation and

reactivity of uncharacteristic behaviour of respondents must be acknowledged (McKernan, 1991). Trust and rapport between the observer and the observed are essential for access and freedom in observation. Validity and reliability are enhanced by frequent observation, so that the effects of a 'stranger' are nullified and more typical events recorded. Using a combination of planned and spontaneous observation, and triangulating data reduces the subjectivity of observation. Other disadvantages of observation include: difficulty in quantifying data, the small size of the population observed and limited generalizability (McKernan, 1991).

Shadow Studies

Shadow studies are an extension of observation. A person is observed over a lengthy period of time and a running commentary is made. This is a common technique of ethnographic studies, but can be appropriate in action research.

Questionnaires

Questionnaires require less time for participants to complete than most interviews or observational sessions. The anonymity usually accorded to questionnaires allows honest replies, without the fear of peer reprisal or attempts to please the interviewee. A variety of information can be quickly gained: factual, attitudinal, interpretational or opinions. Closed questions facilitate questionnaire analysis, while open-ended questions allow for unanticipated responses. Difficulties lie in the complexity, time and resource commitment in construction and analysis, and reluctance by some participants to write at length.

Interviews

Interviews allow for a sustained interaction and the discernment of subtle nuances of unfamiliar perspectives (Winter, 1989). Less structured interviews give greater control to the interviewee and encourage exploration of topics of greatest interest to them, rather than the pre-set questions of the structured interview (Elliott, 1981). Respondents can be interviewed either individually or in groups. Younger students often respond more freely in the company of friends than alone with a strange interviewer or teacher, with whom power and personality struggles may be present. Non-verbal communication can both enhance and detract from the interview.

Tape-recording

Tape-recording of lessons or particular events is a particularly useful strategy for teachers conducting their own research, for studying details of conversations, cooperative learning sessions or for the analysis of teacher questioning skills. Unfortunately tapes do not record non-verbal behaviour, nor do they allow easy analysis of several people speaking simultaneously. Tape-recording is useful in interview situations, enabling the interviewer to concentrate on non-verbal communication, focusing on the interview and discerning worthwhile leads, rather than concerns about writing notes.

During the pilot phase of the Humanities Project, Stenhouse asked teachers to regularly tape-record and analyze episodes from discussions. Recordings were sent to members of the central team who also analyzed them, fed the analyses back to

teachers and compared the analysis (Elliott, 1993). Such analysis was an effective tool in promoting reflective thought.

Video-recording

Video-recording allows both verbal and non-verbal information to be recorded. In fact, Walker (1986) argues that complex classroom processes require video and that the visual media has been neglected in conducting and reporting research. On a practical level, taping can reduce the need for additional personnel, as teachers can record their own classroom activity. Video-taping reduces analytical bias since analysts have access to the same data; although the analysis itself is very time-consuming. Video-cameras are however, intrusive and open to participant reactivity abuse. Cameras have to be pointed and thus omit data outside the scope of the lens.

Still Photographs and Slides

Still photographs can be relatively unobtrusive and particularly useful for retrospective discussion amongst participants (Winter, 1989). Walker (1986, 1991) argues that unlike the written word, photographs carry little with them in the form of high cultural baggage, social class connotations or other pretensions. Photographs engage thought, extend the imagination and undermine the implicit authority of the written word.

The power of the photograph lies to some extent in its exactness and precision, which lend it an undeniability, despite its acknowledged capacity to select and distort. The ways in which the camera 'sees' are very different from the ways in which we see things, but in that difference lie important keys to understanding the intersection of what is personal and what is social. (Walker, 1991:5)

Walker (1986) argues that the discussion of photographs allows people to construct or reconstruct shared memories. The observer gains insights into the ways in which individuals create meaning in their lives. Photographs can be a medium for development of reflective thought since looking at photographs creates a sense of contradiction between image and appearance. A tension is created between the image and the picture, between what we expect to observe and what we see. Photographs do create a static image, but one which can be related to and compared with other data; thus creating a dialectic situation.

Document analysis

Document analysis, such as staff meeting minutes, letters, and newsletters allow comparisons with other collected data. Documents can provide written evidence to support or contradict claims made in interviews or questionnaires.

Diaries

The keeping of a detailed diary records anecdotes, impressions, intriguing comments, hunches, descriptive accounts, hypotheses, explanations and can be a basis of retrospective reflection (Winter, 1989). It is also a means of recording the process of research. Forward (1989:33), cites Kemmis and Henry (1984) in stating that

diaries should:

describe what is happening as accurately as possible (given the particular questions being investigated and the real-life circumstances of collecting the data) but also collecting and analyzing our own judgements, reactions and impressions about what is going on... We record our progress and reflections about two parallel sets of learning: our learning about the practice we are studying (how our practices are developing) and our learnings about the process (the practice) of studying them (how our action research project is going). These techniques help confirm that action research is not pseudo-research but a disciplined form of enquiry with a clear methodology rigorously applied.

Analytic Memos

Analytic memos are similar to diaries in recording the systematic thinking about evidence a person has collected. It is usual to cross-reference to sources of inspiration, such as literature read, observational notes, documents, interview or questionnaire data. Analytic memos frequently contain:

new ways of conceptualizing the situation under investigation which have emerged, emerging hypotheses which may require further testing, citations of the kind of evidence needed to be collected in the future in order to 'ground' emergent concepts and hypotheses more fully, and statements about emerging problems and issues within one's field of action. (Elliott, 1991:83)

Triangulation

Triangulation is a general method for bringing together different kinds of evidence into some relationship with each other so that they can be compared and contrasted. In comparing different accounts, the points where they differ, converge and diverge allow insights and new understandings to be developed (Elliott, 1981). Triangulation can be a means to test data saturation and hence the validity of the grounded theories. McKernan (1991) writes of various types of triangulation: conceptual and theoretical (seeing a project from different models or perspectives), informational (data collected in different settings), researcher investigator (using different inquirers) and methodological (collecting data by multiple research methods, such as participant observation with field notes, questionnaire, interview and document analysis).

Other methodological techniques

Although action research occurs in a naturalistic setting, and thus lends itself to qualitative data collection, quantitative data can be used to complement, refute and support claims made. Comparing test scores (whether academic, social, or affective) and other statistical data with qualitative data only serves to enhance triangulation, understandings gained and new practices accomplished (Calhoun, 1993).

In action research a variety of data is needed to ensure a broad data collection for the development of understanding and improvement in practice. Evidence of validity is shown in the rigour of data collection and the appropriateness of the data for the

conclusions drawn. Data is juxtaposed to allow reflexivity, to highlight contradictions and tensions, and facilitate development of new knowledge. The particular combination of procedures employed depends primarily on the intention of the action research study. Different emphases, such as a practical focus for the enhancement of school teaching practices, and the advancement of theory, may necessitate different procedures. Consequently action research is responsive to local circumstances and needs; varying across and within nations.

4. IS ACTION RESEARCH A STANDARD PROCEDURE THROUGHOUT THE WORLD?

The earlier section on models of action research intimated the various interpretations of fundamental principles of action research. Although in making generalisations, details can be obscured, highlighting the distinctions allows discussion of the differences in philosophy.

In the educational field action research has developed into an international movement. Collaborative networks of classroom teachers, teacher educators and educational researchers have been established in the UK, Australia, Canada, Germany, Austria, Iceland, and there are signs of movement spreading in the USA and Spain. The Classroom Action Research Network (CARN) based at the Cambridge Institute of Education in the UK was established in 1976 to disseminate ideas about the theory and practice of educational action research and keep individuals and groups in touch with each other on a regular basis. A major formative influence on the development of the movement was the notion of teachers-as-researchers' propounded by the late Lawrence Stenhouse at the Centre for Applied Research in Education in the University of East Anglia. Early exemplars of Stenhouse's idea were his own Humanities Curriculum Project and the Ford Teaching Project which Elliott directed. (Elliott, 1985:231)

The three geographical areas of the UK, USA and Australia signify three distinct forms of action research. These differences relate primarily to philosophy as commonality prevails amongst important principles and rigorous procedures of action research.

UK

The Stenhouse tradition belongs to the UK and has since been extended and developed by numerous people. Key personnel include those from the University of East Anglia, Cambridge and Bath, such as Elliott, Macdonald, Winter, Somekh, Adelman, Lomax and Whitehead. The UK has seen a resurgence of interest in action research, not only due to its heritage and longstanding relationships between the universities, Colleges of Education and schools, but also because of dramatic changes in government policy in education. The tide has turned from the centralised control of the government to teachers wishing to have greater decentralised control. One means of usurping such control is by teachers determining what counts as knowledge, and thus creating their own research knowledge through action research.

The central thrust of the UK philosophy is that of teachers-as-researchers. Indeed, control and ownership is given to teachers with minimal direct involvement of outside researchers. The latest trend is to have support networks beyond the boundaries of the school, frequently associated with university graduate classes. These teachers design and conduct small scale action research projects within their own schools. Issues of control and relevance are minimised since the projects are instigated by the participants themselves. Support from the 'outside groups' ensure 'critical listeners' and suggestions for both practical and theoretical difficulties.

The influence of Whitehead at Bath is the source of some controversy in Britain. Whitehead (1993) advocates the importance of the role of 'I' in the research process. Indeed writers, such as McNiff (1993:7) use Whitehead's typology:

1. I identify a problem when some of my educational values are denied in my practice.
2. I imagine a solution to the problem.
3. I implement the solution.
4. I evaluate the solution.
5. I modify my ideas and my practice in the light of the evaluation.

The self is to the fore in this openly subjective approach. The emphasis is placed on a philosophical rather than a methodological approach to action research; not necessarily the prime interest of classroom teachers.

In contrast, those researchers associated with CARE tend to be more pragmatic and focus on daily concerns of teachers (Altrichter, Posch and Somekh, 1993). It is the development of the teacher's understanding and theory of classroom practices, rather than the theory of action research which is highlighted. What makes this research educational is the aim of realizing educational values in practice; which is achieved through developing teachers' capacities to reflect-in-action. Action research focuses on problematic aspects of practice, but it can only do so when understanding is at the level of tacit knowledge. Understanding only develops through discussion on problems of interest to the practitioners. Their focus is on survival and improvement in day to day practice, not on the development of esoteric knowledge. As a result Elliott (1987:158) has stated, "some educational theorists have criticised the work of CARE for emphasising the 'practical' rather than the emancipatory."

The focus in Britain is on the practitioner, with the context dictating the particular type of methodology implemented. In contrast, the Australian model is more theoretical.

Australia

Although variations occur from researcher to researcher and across different locations, the common thread uniting the 'Australian' or Deakin tradition, is a stronger emphasis on theory. Critical theory is the backbone of this manifestation of action research. Carr and Kemmis (1983) reject the manifestation of positivist notions commonly associated with educational research, namely rationality, objectivity

and truth. While not undermining the importance of these principles, Carr and Kemmis maintain that the central focus of action research should be on emancipation; social and political issues rather than a technical focus on the means or ends of research.

Kemmis and Di Chiro (1987) argue that an emphasis on 'getting the process right' has pushed researchers towards following the 'recipe' of the spiral of self-reflection; while the emphasis ought to be on changing individuals, the culture of the group, institutions and societies to which they belong. Carr and Kemmis (1983) argue that people's interpretations of reality are distorted by socially constructed ideologies and that the challenge of action research is to expose such understandings.

Educational theory must be oriented towards transforming the ways in which teachers see themselves and their situations so that the factors frustrating the rational development of their practices can be recognised and eliminated... it must be oriented towards transforming the situations which place obstacles in the way of achieving educational goals, perpetuate ideological distortions and impede rational and critical work in educational situations. (Carr and Kemmis, 1983:128)

Critical theory has the practical intent of radically changing both the form of self-conscious understandings and the forms of social life of those to whom it is addressed. It is integral to the professional practice of teachers, and therefore cannot be objective. The central importance of values and beliefs undermines the positivist notions of rationality and objectivity.

Habermas rejects any idea that the human activity through which knowledge is produced is some sort of 'pure' intellectual act in which the knowing subject is 'disinterested'... It is always constituted on the basis of interests that have developed out of the natural needs of the human species and that have been shaped by historical and social conditions. (Carr and Kemmis, 1983:133)

Habermas posited that there were three types of human knowledge: technical, practical and emancipatory. In other words, human beings seek to acquire knowledge to develop their technical control over their environment, develop an interpretive understanding to guide practical judgement and aspire towards freedom and rational autonomy. Critical theory therefore provokes self-awareness of how individual's aims and purposes may become distorted or repressed by socially constructed understandings. It makes self-conceptions implicit in the distorted ideas of individuals explicit through the identification of contradictions (McTaggart, 1991). In a process of dialectics, views of others can be compared with that of the individual's own views and subjective interpretations questioned and misunderstandings overcome.

Central to the explication process is the structure of communication. Habermas maintained that all participants in a discussion ought to have equal chances of contributing to the dialogue (Carr and Kemmis, 1983).

A critical social science is for Habermas, a social process that combines collaboration in the process of critique with the political determination to act to overcome contradictions in the rationality and justice of social action and social institutions. A critical social science will be one that goes beyond critique to critical praxis, that is, a form of practice in which the 'enlightenment' of actors comes to bear directly in their transformed social action. (Carr and Kemmis, 1983:142)

While acknowledging that action research can be undertaken by individuals, critical theory advocates community action. For deep discourse and effectively, the development of support networks, the organisation of political action to overcome historical and social structures requires a collaborative approach. It is argued that for social justice collaborative action is required so that all members of a community work on behalf of the interests of the whole community and resist power held in traditional forms.

Action research is deemed to be epistemologically oppositional in developing dialectical forms of reasoning. It rejects idealism, positivism and interpretivism. It is also cognitively oppositional in alerting participants to the social construction and distortions of understandings, and thus culturally oppositional in challenging current relationships and practices (Kemmis, 1988). Action research endeavours to identify and expose aspects of the social and political order that oppress the participants. It is only through a process of emancipation that ideological and institutional conditions can be transformed, thus enabling practitioners to obtain conditions which are more socially and educationally just. This orientation is more readily maintained by academic researchers than classroom practitioners because university researchers have freedom from the institutional and cultural demands of the school. They are more likely to be exposed to wider educational theory and liberating ideals, and are not encumbered by the practical concerns of daily teaching of young students.

Critical theory in action research is criticised for being too jargon-laden (Chisholm, 1990), inaccessible to teachers and other practitioners, and being idealistic.

This view of the transformative power of teacher research is probably naive; not only does it once again put the onus of school reform on the teachers, but also it does not acknowledge the many structural features of school systems that constrain bottom-up, inside-out reform. (Cochran-Smith and Lytle, 1988:14, cited in Rogers, Noblit and Ferrell (1990:181)

Human organisations continually struggle with notions of power and control, such that conditions of symmetrical communication and free discourse rarely prevail. Notions of power, control and discourse are rarely immediate concerns of teachers, who tend to be oriented towards more practical concerns (Kyle and McCutcheon, 1984; Tripp (1990). An attempt to address both the theoretical and practical dimensions is made in the USA.

USA

The American approach (again acknowledging that state and regional differences exist and elements of the British and Australian action research trends co-exist), has tended to sit on the continuum between that of Britain and Australia. Nevertheless, the USA approach does have a practical emphasis, particularly in giving ownership to teachers (Kyle and McCutcheon, 1984; Bennett, 1993; Johnson, 1993), while demanding administrative and district support for teachers conducting action research within their classrooms. Requests for time to engage in on-going academic qualifications, teacher discussion, provision of updated educational research, time to gather data and reflect on classroom processes (Bennett, 1993) are made if teacher-researcher roles are to be sustained beyond the one-off project. Although the impetus tends to come from involvement in graduate classes (Bennett, 1993), teachers are most frequently working in conjunction with an outside researcher. Benefits can accrue to both the outsider and insider, but the relationship can be fraught with dangers, as is explicated in the last section of this chapter.

Although the national differences of only three countries is painted above extremely broadly and briefly, the central point is that legitimate variations do arise in action research. As a result of leading scholars, such as Elliott, Carr and Kemmis, devoting years of attention to the concepts and issues of action research, the methodology and indeed, the theory of action research encompasses the complexity of reality in a wide range of natural settings. Nevertheless, the authenticity of action research inevitably struggles amidst the perplexity and contradictions of modern educational organisations.

5. WHAT CONTRADICTIONS ARISE IN ACTION RESEARCH?

Contradictions and tensions are intrinsic to action research, for the interaction of people in professions marked by uncertainty, inconsistency and rapid change, amidst a diversity of values and beliefs, ensures a constant struggle of ideologies. Three key contradictions are discussed in this section:

- a) tensions between theory and practice
- b) individuality and collaboration
- c) insider and outsider research

Each of these contradictions contains subsidiary inconsistencies.

Theory and Practice

Action research fights a constant battle between the demands of theory and the demands of practice. The heart of the problem exists in the different educational pursuits of the two traditionally separate domains. Kemmis (1989) labels this as the 'division of specialist labour'.

Theorising and practising are separated in the larger social framework by the division of labour and differentiation of function in the institutional structures of contemporary schooling. There are people whose primary tasks are understood to be theorising (academic educational researchers) and others

(teachers) whose primary tasks are practice. (Kemmis, 1989:16)

People in education come to expect that the primary responsibilities of each are distinctive. Their purposes are different as are the very research questions they pursue. Teachers are primarily concerned with classroom management issues and practical solutions, while academics predominantly focus on larger educational and social issues.

Teacher-research in action research does not typically start with hypotheses derived from the research literature and is not usually concerned to contribute to the corpus of social science knowledge and theory. (Kelly, 1985:131)

The nature of the questions posed by teachers differs from researchers. A brief comparison between a practical and a theoretical definition of action research will suffice to illustrate the point.

Action research is intended to support teachers, and groups of teachers, in coping with the challenges, problems of practice and carrying through innovations in a reflective way. (Altrichter, Posch and Somekh, 1993)

Authentic action research is occurring when school community members can: give a reasoned justification of their educational work to others because they can show evidence they have gathered and can document the critical reflection they have done to create a developed, tested and critically-examined rationale for what they are doing. Having developed such a rationale, they may legitimately ask others (and those among them) to justify their practices in terms of their theories and the evidence of their critical self-reflection. (McTaggart, 1989:346)

Teachers are more interested in personal, classroom-specific problems (Kelly, 1985; Johnston, 1993). Frequently it is the involvement and stimulation of an outside researcher that creates the awareness in teachers that a problem even exists (GIST Project Kelly, 1985; Humanities, and Ford Teaching Project, Elliott, 1992). Walker (1986) argues that it is the use of case studies that further encourages teachers to be myopic, for its emphasis on synthesis rather than analysis, means that the hidden curriculum, informal social structures and unintended consequences of action remain obscured to teachers.

Thus, the central purposes of research and the subsequent framing of questions ensures a dichotomy between those people with a prime interest in either theory or practice.

The second issue related to the tension between theory and practice, concerns the competing demands of research rigour and, flexibility and practicality. Johnston (1993) argues that the common portrayal of the action research cycle is theoretical, general and idealised. The language in which the cycle is often encapsulated contributes to its obscurity and mystification (Ebbutt, 1985). It consequently conceals

the complexity of the cycle in practice. In reality each of the stages is not discrete. As Kelly (1985) argues, schools are constantly changing in unpredictable ways which destroy any neat experimental design. To present the action research cycle " as a refined and authoritative representation of a complex systematic and sophisticated process" (Ebbutt, 1985:169) causes teachers to be bemused, daunted, critical or become disassociated. McFee (1993) suggests that Carr and Kemmis' (1986) reliance on Habermas' theoretical underpinnings is not only one of extreme complexity and therefore inaccessible to most teachers, it is also problematic in its own right. Assumptions about:

the nature of language, of truth and of the workings of society are all eminently contestable, especially in its neglect of social factors which affect group processes of deliberation. (McFee, 1993:174)

Notwithstanding such difficulties, action research must go beyond casual thought, as argued earlier in the definitions section of this chapter. If action research is not a research method or paradigm, questions arise as to what it is, how dependable the data is and what makes the outcome of action research knowledge. Such questions are inevitable as action research endeavours to straddle the two worlds of theory and practice. The debate causes writers like Elliott (1992), Altrichter, Posch and Somekh (1993), to urge potential researchers to be responsive to the context, and allow the context to dictate the methodology and process of action research.

There is also a conflict between the pursuit of truth and the maintenance of trust and support for both outside and inside researchers. Publishing of an action research study requires detailed descriptions of the site, personnel, events and surrounding circumstances for reasons of validity, but ethical requirements necessitate ensuring the confidentiality and privacy of participants. Endeavours to state the situation as objectively as possible can violate rapport, and undermine the confidence and subjective interpretations of participants' emerging understandings.

The conservativeness of teachers is another problem in the debate between theory and practice (McFee, 1993). Practitioners tend not to look beyond their own practice to better practice. Cultural self-effacing socialisation of teachers undermines the sharing of expertise. McTaggart (1989) cites a case study in the US of two 'master teachers' who de-valued their own knowledge and experience and valued only positivist and quantitative research. Despite being identified as being highly skilled teachers, other teachers in their district were not forthcoming in questioning or seeking the 'master teachers' knowledge. District teacher evaluation contributed to the fear of standing out and having to do something different. The district valued uniformity in curriculum so teachers could not break free from their cultural milieu to undertake collaborative action research. There appeared to be an apparent moral commitment to keep ideas about teaching private.

Dependable knowledge about progress was believed to come from 'objective testing'; testimony from obviously informed and articulate teachers would never be enough. (McTaggart, 1989:357)

Questions arise as to what constitutes theory. Abstract theory is denounced by teachers as being esoteric and lacking in practical value, while their own practically-derived theory is demoted and considered not generalisable.

In an attempt to answer this dilemma of creating accessible and relevant theory, Elliott (1992) promotes the concept of an educational vision.

In the current 'market setting' academics in schools of education must struggle to help teachers maintain an educational vision of their practice and to find ways through action research of realising it in spite of constraints imposed by government's restructuring of schooling. (ibid:9)

Such a proposition is a means of lifting teachers' sights above their present situation. Kemmis and Carr advocate the emancipatory role of action research. Elliott (1992) provides a vehicle for such liberation:

If the interpretative frameworks 'theories' academics use to help teachers analyze data about their practices are embedded in value-assumptions about the educational ends they should serve, and if in the light of such analysis, carried out under conditions of free and open dialogue with teachers, the frameworks used are further modified and developed, then it follows that the values-assumptions underpinning them will be questioned and redefined. Educational action research, as a dialectical process of testing theory against practice and developing theory through practice, acknowledges no 'fixed visions of educational ends'... Although it is important for the academic facilitator to represent a vision with educational ends, it must always be represented as a provisional one capable of being revised and developed through dialogue with teachers... Educational action research is simply an educational discourse between academics, teachers and others which is grounded in the study of two practical domains: the first-order domain of the teacher and the second-order domain of the teacher-educator or facilitator. The dialectical relation between theory and practice can only be maintained if these two dimensions of practical discourse are sustained. In the context of government reforms... the task of educational action research is not so much to resist as to transform them by reinterpreting the democratic values which underpin them, albeit in distorted form. (Elliott, 1992:10)

The transformation of thinking, theory and practice is at the heart of action research. Rather than concentrating efforts on the distinctions and separateness of theory and practice, energy ought to be channelled into bringing the two together. Kemmis (1989) argues that action research requires a notion of practical reasoning, that theory and practice are dialectically related. In order to accept this notion, the view that adequate educational theory needs to be generalisable across settings needs to be abandoned (Kemmis, 1989). Thought becomes theory when it is:

tested, justified and sustained through a *social* process of debate...when this debate is conducted in the light of shared values about truth and rationality it

is itself a *social practice*... Theoretical knowledge is mediated not only through the minds of individuals but also through public processes in which actions come to be understood as practices, as activities of a certain type, whose meaning and significance is shared among groups of people, perhaps whole communities. (Kemmis, 1989:11-13)

Development of theory and practice is both an individual and a social concern. Reflection and construction of knowledge is initially individual, but its reification requires a critical community in which the art of dialectics and critical discourse occurs. Understandings are developed from the basis of shared meanings (social dimension), and individual reflection which fosters further exchange of alternative interpretations. This interplay between individual and community perspectives both enhances and problematises action research.

Individuality and Collaboration

The support needed in developing or testing new interpretations and practices necessitates group membership, and indeed, the formation of self-critical communities. However, the central tenet for practitioners is the pursuit of a question, problem or curiosity that most interests them in their own practice (Kyle and Hovda, 1987). The likelihood of all teachers within a school being highly interested in the same problem is remote. If a group is working together on an action research problem, commitment will be naturally variable. The nature of the working environment of teachers further compounds the difficulty.

McTaggart (1989) writes of the concept of privatism. He cites Lortie (1985) in identifying two means of teacher privacy: being alone in the classroom most of the day and away from co-workers; and priority allocated to other individualistic tasks when more time is available. The preference for teachers is not for collective reflection, but rather a commitment to privacy.

The privacy of classroom practice actually allowed rudimentary action research, but it also curtailed the development of the collaborative, public, critical action research envisioned in more recent arguments. (McTaggart, 1989:358)

McTaggart found that autonomy for teachers to practise what seemed best for students in their classrooms was better protected by anonymity than by open discussion. Teachers believed other teachers would barely be interested in their ideas, and since the district valued curriculum uniformity, divergence was kept quiet.

Apparently there was no discourse by which the ideas could be engaged, no forms of social relationships which might support development of such a discourse, and no expectation that such a discourse belonged in the practice of teachers. (McTaggart, 1989:351)

Although action research tends to empower individuals in their battles to improve their articulation and implementation of educational change (Sanger, 1990),

practitioners need other professionals with whom they can debate issues and develop understandings. Action research is an intellectually demanding mode of enquiry which prompts serious and often uncomfortable questions about classroom practice. The individual teacher has to be willing to learn about his or her own classroom and have a desire to develop professionally (Kyle and Hovda, 1987; Watt and Watt, 1993). The complicating factor is that professionals tend to:

gather to ourselves that which confirms our deepest underlying prejudices and attitudes and our educational theory... the problem is.. how to disturb these deeper layers of calcified experiences in order to enable meaningful deep change to take place and new kinds of structure to develop... For change to occur in a meaningful way, this bedrock of calcified experience and understanding needs to be disturbed... For many it is a traumatic awakening into a stream of consciousness where suddenly the familiar daily routines of professional practice become discordant symbols of the conflicts that exist between articulated (surface) and unarticulated (deep) levels of knowing. (Sanger, 1990:175)

School communities are full of contradictions - staff members have different interests, levels of commitment and views about what community is, thus making the notion of a critical community problematic (Carson, 1990). Teachers need the *support* of colleagues, while also wishing to *influence* change. The hierarchial structures of most schools negates the possibility of true democratic relationships, let alone free-ranging discussions. Political relationships are further complicated by recent calls for accountability, teacher appraisal and principals involved in monitoring staff in professional development and in career promotions. Teachers seeking promotion on innovative ideas are hesitant to share these ideas in discussion with other colleagues. Thus, attempts at true collaboration with schools is seldom realised. Elliott (1992:13) acknowledges this dilemma:

The action research process has always respected the individuality of teachers in the classroom, but has always presupposed that it is best fostered by giving them access to a variety of a perspectives on their practices and opportunities for dialogue about them; particularly those of their peers, their children and educational researchers.

Ultimately, only the individual teacher can change his or her views, understandings and practices. No amount of dialogue will change another persons' practice unless their own thought processes are changed. It is for these reasons that interested parties have formed support networks, such as CARN, university-based study courses, and those devised in projects such as Elliott's TIQL Project where small groups of teachers met together beyond the boundaries of the school. Teachers of different schools but of similar interests met regularly to discuss action research issues. Meeting with teachers of like-mind and free from the bounds of their own school culture and historical patterns of relationships, enabled teachers to discourse and develop dialectical relationships. Such groups allowed teachers to continue in their private worlds of their own classrooms, while simultaneously sharing insights,

challenging one another's ideas, extending and improving their understandings. Kyle and Hovda (1987) discovered that teachers found empathy from group members as they developed research techniques and confronted difficult issues. In recognizing and trusting the interest of their peers, teachers shared their frustrations and dilemmas, so examining their teaching critically in a non-threatening environment. For most teachers, development of the notion of critical communities will only occur in groups beyond that of their own school. Formation of these communities frequently occurs through the instigation of an 'outsider'.

The phenomenon of outside-researchers or support groups has been utilised particularly where skills or experience are not forthcoming in the school. Van Manen (1990) criticises this approach however on its democratic assumption. Normal teacher-pupil relationships are either adult-child or at least expert (more experienced) to less experienced. Van Manen therefore argues that relationships of university-based action researchers is more appropriately based on 'agogical' (learning from within; someone who can really deepen my action-sensitive understanding) than on democratic principles. The relationship of outsider and insider raises further contradictions.

Contradictions of the Insider and Outsider Relationship

In the striving towards a closer relationship between theory and practice, the two worlds of teaching and research, and subsequently the insider and outsider, have met. Due to the historical distinctions between the roles of teachers and researchers, teachers have little experience in conducting systematic research in their classrooms. Teachers have also long rejected research literature as irrelevant to practice, while having a greater concern with resolving immediate problems than with contributing to knowledge in general (Kyle and Hovda, 1987). With a growing interest of academics in the complexities of classroom life, and teachers' increasing interest in maintaining classroom and curriculum control in the light of governmental policy reform, considerable learning has occurred in the insider-outsider relationship.

Elliott (1988), in writing on the topic of "Educational research and outsider-insider relations" discusses the outsider-insider relationship in terms of critical theory, democratic evaluation and anthropology. Action research is argued to have a unique role in empowering the insider to take command of his or her own understandings and actions. The outsider's role is to stimulate reflection and develop a process so that insiders are eventually independent of the outsider's assistance.

In assisting the insider, the outsider is placed in complex predicaments. As discussed earlier, what constitutes knowledge and theory, the epistemological dimension, must be worked through. Teachers tend to personalise their research, while researchers are frequently more concerned about wider social and educational theories (Kyle and Hovda, 1987). Beliefs and assumptions about the theory-practice dimension, and hence ethical dilemmas governing outsider-researcher's access to and use of information about the insiders' activities, creates challenges for both parties. Belief structures (the political dimension) mask concerns as does the social order; what Elliott (1988) terms the 'ontological dimension'.

The first of these dimensions discussed by Elliott (1988) concerns the epistemological dimension, that is, the conceptualisation of knowledge and theory. Research has traditionally been of objective, measurable events, detached from subjective values. Issues of generalisability have governed the reliability and value of data. In contrast, insiders are deeply involved in the subject of their work and its particularity. The task in the outsider-insider relationship is to have outsiders become more preoccupied with situational details and complexities of social, political and educational realities, while insiders become more detached and develop a wider 'educational vision'. In becoming more cognisant of wider issues, teachers come to understand the deeper cultural milieu in which their beliefs and practices are embedded. Once particular issues are seen in the broader context, teachers can discern the commonalities and constraints in their practices, and thus work towards emancipation. Outsiders not only work as 'natural brokers' (Elliott, 1988), and hence process interpretations and judgements of teachers to facilitate their informed debate about education, but come to see how their own practices are rendered problematic.

Difficulties in establishing trusting relationships with insiders is seen as problematic by Elliott (1988), given the state of conflict amongst insiders themselves. Conflicting accounts from the same informants, in addition to differing accounts from various members of the organisation, render objective data collecting an impossible feat. Given then the ethical dilemmas of balancing the 'public's right to know and the insiders' right to privacy' (Elliott, 1988), the outsider-insider relationship is fraught with difficulties.

There is no outsider standpoint from which one can impartially comprehend the meanings insiders attribute to their practices. All 'understandings of understandings' are necessarily biased by the researchers 'being in the world'. The neutral broker is as unreal as the critical theorist. (Elliott, 1988:162)

The solution in this dilemma lies in the awareness of each person's biases and in transforming this tacit knowledge to a level of dialectical discourse. The key role of the outsider is in the development of insiders' reflective capacities. In the process of interpreting peoples' ideas, opportunities need to be created to allow participants to reconstruct their traditional values and beliefs, rather than have them undermined. This is seen, in ethnography, as the role of 'holding up the cracked mirror', which is a means of facilitating participants' reflection.

Relationships approximating equality between the insider and outsider will develop tolerance of divergent views in debate. Individuality in decision-making, empowerment of insiders to generate their own critiques, and the stimulation of self- and group reflection ultimately empowers teachers to negotiate change for themselves, in educational power relations (Elliott, 1988).

This assumption does not recognize the contextual constraints under which teachers operate. Social relationships in schools are rarely fully free to allow open and honest discourse. Job security, promotion prospects, and historical patterns of relationships prevent free speech. Any role in a school results in access to particular information

and inaccessibility to other information. In contrast, an outsider can be privy to people's real thoughts and opinions during interviews and other encounters, particularly in situations where trust, rapport and confidentiality have been established. With the benefit of 'objective' observations and access to a myriad of information crossing role boundaries, the outsider is then able to voice concerns or statements that people within the culture are prevented from expressing. Although this function can be at risk from hijacking, it is nevertheless a beneficial attribute of the role of the outsider.

The outsider is also a vital resource for research skills. Reliance on, and indeed assumptions about the standard of research skills and understandings of teachers can be precarious. The outsider can play an integral role in the professional development of teachers, albeit acknowledging the hierarchial dangers of imparting such knowledge (Van Manen, 1990). Involvement in the outsiders' research procedures has a modelling effect for teachers, as well as imparting knowledge of such techniques. Sceptical teachers may be persuaded as to the relevance and interest of research in their own school situation.

The constant presence of the outsider in the school can act as a motivating force for teachers in sustaining a vision and in continuing their own research interests, given the constraints of time, resources and organisational resistance.

Time must be provided for exploring why a particular topic is significant, and how it relates to the teacher's aims and teaching context. The guidance of a facilitator in the action research process becomes crucial at this stage.
(Kyle and Hovda, 1987:86)

Through the outsiders' posing of critical questions in formal and informal interviews, casual conversation and new interpretations of data, teachers can be inspired to think beyond the daily realities and demands of teaching - a more difficult challenge for insiders to accomplish for their colleagues. In writing of the teacher-as-researcher assumption, Van Manen (1990) argues that the mere involvement of the practitioner in action research does not ensure that the research will be educationally or pedagogically animated. "Action research too easily slips from thoughtful reflection on experience into a rationality of problem thinking and problem solving" (Van Manen, 1990:154). The outsider has an important role to play in encouraging adherence to central tenets of action research.

Finally, the outsider in bringing a less subjective view to the school culture, can offer fresh insights and discern problems or issues to which insiders may otherwise have been oblivious. Asking questions on matters which insiders have taken-for-granted and presenting information or feedback in different forms raises contradictions and the possibilities for reflection, new insights and potential for change.

Thus, while the insider-outsider relationship is fraught with difficulties of imbalances of power, knowledge, access to information, and possible goal incompatibility; the resources of time, skills, insights, and indeed 'an extra pair of hands', ensure the

continued involvement of the outsider for school-based action research.

CONCLUSION

Literature on action research reflects the complexity and intricacy of research in naturalistic settings. These tensions and dilemmas have been recognised since its inception. Action research had its origins in the work of Lewin and Stenhouse, and it has been further developed by researchers world-wide. Although different emphasis is accorded to the balance of action and of research, the relationship between the two is the central international concern of action research. Valid action research occurs when improvements in both understanding and in practice are evident. The dilemmas and tensions which develop in the process of integrating action and research arise from issues of imbalances of power (such as the relationship between an outsider and insider, and amongst insiders), inadequate reflection and contradictions amidst implicit and explicit understandings. Developing critical communities, reflexive practice and the art of dialectics is seen to be fundamental to action research.

The question remains as to how these principles, procedures and theoretical understandings of action research are translated into practice, particularly in schools with no exposure to nor experience of action research. What cultural forces, practical constraints and political pressures are critical in developing not only an interest in action research, but a commitment to the process and its improved practice?

The means of implementing the process, that is, the methodology as employed in the present study, forms the substance of the next chapter, *Methodology in Action*. Parallel questions in the *Methodology in Theory* and the *Methodology in Action* chapters provide a means of comparison between the literature (theory) and the reality (practice) of action research. The actual process and products of the action research of WHS are contained in the chapters on *Five Cycles in Action Research in the Achieve Programme* and *the Emergent Themes*. Discussion now turns to the actual methodology employed in the present study.

CHAPTER FIVE

METHODOLOGY IN ACTION

INTRODUCTION

Methodology in action has a similar structure to that of the theoretical methodology chapter, with corresponding areas of inquiry. The chapter outlines the development and procedures of action research actually used in the study at WHS. Four major areas are examined:

1. the evolution of action research at WHS;
2. action research principles which were fundamental to this study;
3. relevant procedures and;
4. the differences between this study and those conducted in the UK and Australia.

Action research has two parallel threads of process and substantive matters. Although the focus is on process when discussing methodology, it cannot be entirely separated from the content, which is inextricably entwined. Thus the content of the study, the Achieve programme, inevitably arises during the chapter, acting as an advance organiser for the subsequent substantive chapters of *Five Cycles of Action Research in the Achieve Programme* and the *Emergent Themes*. Intimated also in this chapter are some challenges made to the basis of action research, and its practical implementation. The questions and challenges which are advanced become the focus of chapter eight.

The first consideration concerns the evolution of action research at WHS.

1. HOW DID ACTION RESEARCH EVOLVE AT WHS?

This section of the methodology chapter examines the evolution of action research at WHS. Three themes are discussed:

- * establishing initial contacts;
- * the nature and cycle of action research activities;
- * reactions of the school community and researcher, and evolving school community interest in first-order action research.

Establishing Initial Contacts

Prior to involvement in the study at WHS, the writer was involved as an action researcher at another school in which the Achieve programme was conceptualised. It was during an open day at this school that the principal and senior staff of WHS observed, and later decided to adopt the programme. The principal of the first school (QHS) informed the writer of the WHS decision to adopt the programme. Having had some experience with both the Achieve programme and an action research study through a Ministry of Education contract, the decision to begin a doctoral study was imminent for the writer. She subsequently wrote to WHS requesting involvement in the programme. Their reply was positive:

"..We would be very happy to have the benefit of your observation and commentary next year and hope that you gain useful material from us for your doctorate. You will find us a very different kettle of fish from QHS - only eleven teachers altogether, as few as a dozen pupils at some levels and with our programme running from F2 to F5 inclusive with F1 joining by the end of term two in all probability. I look forward to hearing from you again and your input in 1992....." (WHS Principal's letter 27/11/91)

A few letters were exchanged and arrangements made to attend the first days of implementation of the Achieve programme. Excerpts from the field notes describe initial interactions:

"It is morning tea time in the staffroom. There are eleven staff members present, mostly of an older age group who seem quite friendly and talkative. The principal is into his 21st year at WHS so he has taught parents of numerous students. He seems to know a lot of names, judging from my observations of brief conversations he has had with pupils. The principal interrupted the staffroom conversations to introduce me to people I had not already met. He mentioned that I was a member of the Massey team working at QHS and was a doctoral student studying the Achieve programme here. He gave me an opportunity to speak - so I said that my purpose today was to meet them and the students and become familiar with their environment. I anticipated visiting for a day at least every fortnight. Most of my time would be spent observing in classrooms, if they felt okay about that. I would really be like a fly on the wall in the classroom - and mentioned a mufti-money incident at QHS and teachers giving me tests to do (where I was mistaken for a student). (I wanted to reassure them of my intentions to be non-threatening). I also envisaged conducting PAT (testing they already administered), a learning inventory, interviews with teachers and a sample of students and possibly parent surveys, depending on the teachers' interest for information. I gave teachers an opportunity to ask questions, but they asked only how frequently I would be visiting... I then spoke with one teacher who had been a university student of mine the previous year... " (FN 0104-0105 7/2/92).

The stage was set for an action research study at WHS. It must be acknowledged that at the outset the writer had envisaged a second-order (Elliott, 1988) action research study, although it evolved into a combination of first and second-order action research study towards the end of the second year. Factors contributing to this initial decision were: the writer's limited experience in action research, her own development from an ethnographer to an action researcher, WHS isolation (both geographically and professionally), staff orientation towards action rather than theory, and limited staff development.

Once contacts were established, a strategy was negotiated and devised for conducting the action research. This approach is summarised in the next paragraph; details follow in a later section relating to procedures employed in the study.

Cycle and Nature of Action Research Activities

An action research cycle evolved and continued during each of the five terms (18 months). The first part of the term consisted of classroom, assembly, and staff meeting observations, followed by interviews of staff and students. The first term also contained some formal testing: PAT (Progressive Achievement Tests)¹, and administration of a learning inventory²; while the third term contained a parent survey. At the beginning of each subsequent term a feedback report was written, containing results of observational trends, student and teacher interviews and possible discussion questions. A staff meeting would be devoted to receiving and discussing the report, with follow-up meetings where necessary for fuller debate or decisions on possible action. The outcomes of such meetings became a focus for subsequent observations and interviews.

Having established contact and a general plan of action, it was important to record initial reactions of the school community to determine the direction, depth and nature of the action research study.

Reactions of the Students, Teachers, Principal and Researcher to Action Research: developing relationships, confidence, rapport and educational understandings; and evolving school community interest in first-order action research.

Reactions can be gauged in a number of ways: observing action, asking questions, interacting with the participants, reading documents, analyzing and triangulating trends in the data. Each of these techniques is used below to explicate reactions to action research. Naturally the reactions are context-bound and thus some issues of the Achieve programme itself are interrelated in the action research process. Although the content of the Achieve programme is the subject of the *Five Cycles of Action Research in the Achieve Programme* and *Emergent Themes* chapters, reactions to the programme provide an indicator of participants' disposition to reflection, extent and freedom of communication, social relationships and levels of awareness of wider issues; all key factors in action research.

Students

Students' reactions varied. Being a small rural school, visitors were conspicuous and indeed students treated the researcher with some initial suspicion. In the classroom they initially moved desks to be further away. Some of their confusion resulted from a few teachers overlooking the need to introduce the researcher to their classes. Although the writer introduced herself each time she sat next to students, explaining what she was doing and why, she was still regarded with some caution. Helping

¹ Progressive Achievement Tests are New Zealand standardized tests. They test students' achievements in: listening comprehension, reading vocabulary and comprehension, mathematics, and study skills. Tests can be administered from year 4 to year 10 in the first week of March.

²The Study Skills and Learning Strategies Inventory was devised by the writer and two other authors involved in the QHS Achieve programme. It was designed specifically for the Achieve programme to diagnose students' study and learning preferences, essential for independent learning programmes.

students with their work and engaging in periodic conversations gradually reduced their uncertainty. Once students realized the similarity between some of their own project work and that of the outside action researcher's, they were more accepting.

"Students seem more accepting of a researcher - largely ignoring me and continuing with their work. They do explain what they are doing when asked, however, they choose to sit elsewhere!" (FN 3033 4/5/92)

Familiarity from frequent visits reduced the stranger anxiety. Later, interviews became an avenue for students to voice authentic concerns that were difficult to express in the traditional teacher-pupil relationship. Although the researchers' presence was only one aspect of the action research process, it was a very tangible symbol.

When asked at the final round of interviews about the effects of the presence of the outside researcher, student reaction was mixed. Students felt sufficiently comfortable to pass on their earlier reactions, such as their initial shyness or that people took little notice of the outside researcher and acted normally. It could be argued that some students took the researcher for granted, that is, the ethnographic 'fly on the wall', while another interpretation is their general ease at the researcher's presence. The question was discerning a deeper level however, the degree to which students were aware of changes in the programme as a result of the action research. Two students indicated a low level of awareness - the appreciation of a small school being the focus of a study, and the opportunity for students to express their views. Students were told at each interview of the confidentiality of their individual responses. Only general trends of student comments were to be reported to teachers, thus allowing changes to be incorporated where necessary. Students generally seemed unaware of the effects of their feedback on the programme.

Nevertheless, students who formed the interview sample (details of which are included in the section on procedures), showed development in reflection and critical thinking skills over the two years of field work. Although it is impossible to distinguish whether this development was age and hence maturity related, due to increasing familiarity with and trust of the researcher, an outcome of the Achieve programme itself, or a combination of each of these factors, the important point is the growth in reflection.

Only interview tapes, in contrast to the written word, could reveal changes in student interview response. The majority of students changed from stilted short phrase responses in the initial interviews, to become more articulate and confident in their replies. No longer did some of them merely agree with the statement or reply "don't know; nothing", suggesting their communication apprehension and uncertainty of the situation, but some of them developed sufficiently to disagree with the interview question and elaborate on their reasoning³. Changes in content can however, be

³Awareness of this dilemma posed interesting challenges for the researcher, details of which occur later in this section of the chapter.

demonstrated.

Table I.2 in Appendix I is one indicator of this change in thinking. The question of student dislikes and changes sought shows a trend away from the response "nothing" to a variety of aspects. What is most significant is the change from matters concerning their lack of responsibility (eg blaming teachers for not being allowed to change rooms, or lack of teacher availability) to concerns about the learning itself, that is, comments on the interest level of work and wanting teachers for explanation of work.

At this stage it is the trend that is important, the content is of greater concern in the *Five Cycles of Action Research in the Achieve Programme and Emergent Themes* chapters. Nevertheless, students demonstrated an awareness away from superficial matters to those concerning learning itself. How much of this was due to first or second order research? During April of the second year (that is, more than half way through the study), students were asked whether their views were sought, if they would like to be asked, and how.

Generally students were keen to have their opinions heard, except for two students who felt that their opinions would not be actioned. Perhaps the medium of communication was at fault. It would have been interesting to know whether this trend was peculiar to those students who had been interviewed throughout the study, or whether this was a trend across the student body. The majority of students in favour of surveys indicated their preference for anonymous views to be heard; although a high proportion of students preferred a more casual approach integrated into normal teaching and learning behaviour. This question also provided teachers with avenues for seeking student opinion once the services of the writer were no longer available.

To gauge the extent to which students could compare experiences of one year to the next, and hence provide an indicator of some degree of reflection, they were asked the differences between the previous and current years in the programme. Identified changes were largely perceived as positive. Although four students were unable to verbalise any distinctions, most students were able to identify changes. Some students remarked that "you feel dumb if you ask questions sometimes and it is not so obvious when a teacher stops at each student and asks them questions." Such information was returned to teachers at the feedback sessions, discussed in detail and largely implemented.

In conclusion, student development in understanding action research was evident. Students changed from initial anxiety and suspicion of the researchers' involvement to tolerance and appreciation of the opportunity and avenue for expression of their views. Students had variable perceptions of the degree to which teachers currently sought their opinions but were strong in their desire to be asked and involved. They offered practical suggestions on how to be questioned and showed trends in development of reflective thought. Teachers discussed more proactive roles for student involvement in their last staff meeting. Thus, as this study ended, students

and teachers were poised to undertake their own (first-order) action research. How did this evolution occur with the teachers?

Teachers

From the outset, teachers were largely welcoming and interested in sharing their ideas:

"One teacher invited me into his classroom. I observed for awhile and then he came and spoke to me. He spoke for quite awhile, explaining his programme and schedule for the year. W. is enjoying being a 'roving' teacher because he helps students with a variety of subjects. Unfortunately he finds maths has changed too much for him to be of much assistance to students. He believes kids here need to write more than the simple quick answers they do (thus W. has a critical perspective on Achieve already). W. enjoys conferencing with kids and looking at what comments other teachers write on their work.

I realized that my presence as a researcher facilitated teachers' awareness and reflection on their teaching habits and maybe even the programme itself. Having another person present makes the teacher more conscious of what s/he is doing and thus may create opportunities for reflective thought." (FN 0135 20/2/92)

This teacher seemed to be at ease with the researchers' presence in the classroom. Other teachers varied from this end of the continuum to apparent ill-ease - their experiences of another professional's presence being linked to inspection or appraisal visits. Nevertheless, all teachers spoke to the researcher while she was in the room and explained classroom events or thoughts on the Achieve programme itself.

Teachers used the researchers' presence for seeking advice and information on the Achieve programme at the prototype school. This caused a dilemma for the researcher. She wished to help the teachers where possible (addressing issues of reciprocity), but was reluctant to be viewed as the 'outside expert' and thus create the hierarchical relationship of which Elliott (1988) wrote. She also believed that successful innovations required adaptation rather than adoption and thus endeavoured to offer a range of alternatives from which teachers could select, as well as encourage them to suggest other alternatives. Nevertheless, the presence of the researcher prompted casual conversation with teachers, frequently containing reflective comments. This aspect is further developed in the section on reflection and readiness in the final theoretical chapter.

Another teacher indicated her early concerns about Achieve, and indeed her teaching style:

"Eleven students are present in the classroom. The classroom is very quiet with five groupings of students... The teacher roves the classroom looking at what students are doing and asking questions, such as "Do you know what this scale means?" (and explains if necessary).

I spoke briefly with the teacher. Her greatest concern is the timing - some students getting through units while others are still going and determining how much to expect of students. Next year she will know, but this year they are guinea pigs. She was also concerned that she likes doing a lot of group work and discussions. Although she realizes that this will still be possible, she is concerned how this will go..." (FN 0108 7/2/92)

Even in the early days of Achieve teachers were questioning a few fundamental issues, such as restricted teaching style, students' variable pace of learning (which was to become a major issue), and flexibility versus standard Achieve practice. The content of these concerns is considered in the Emergent Themes chapter, the process of action research is the prime consideration here.

Teacher interviews provided opportunity for teachers to portray their reflective comments, contradictory thoughts and statements. Comparisons between initial staff meetings and those towards the end of the study (contained in the *Five Cycles of Action Research in the Achieve Programme*) revealed development in reflection, greater depth in understanding and discussion, and open discourse. It also indicated the growing comfort of the staff with the research process for it was inappropriate to tape record the first meeting, but it was fully acceptable to record the final meeting. Discussions appeared to prompt reflection and problem-solving. They did not seem surprised at the information presented in 'feedback reports'. This could indicate relatively accurate interpretation of field notes and interview comments, or it may have symbolised insufficient teacher reflection or critical thinking.

The first 'feedback staff meeting' appeared to be the first occasion on which teachers had discussed the philosophy of Achieve. Teacher interview statements throughout the study demonstrated growing experience in reflection, critical awareness and developing understanding in the philosophy, theoretical bases and practical ramifications of the Achieve programme. Teachers initially hesitantly shared their views and intentions. Later meetings revealed a greater ease in this communicating, as teachers' understanding and confidence in the programme and the process grew.

It was during staff meetings that teachers debated their concepts of the philosophy of Achieve; and to what extent they allowed individual and collaborative teacher action. The difficulties of confused communication amongst themselves and the students were highlighted. This developing awareness, perception of contradictions, the clarification and deepening understanding of their philosophy and practice of Achieve, indicated a readiness to begin conducting their own action research.

As identified in the theoretical methodology chapter, teachers focused on classroom concerns, and required the stimulation of a self-critical community to develop a more objective stance to perceive problems as school-wide.

Having examined the teachers' development, how does it relate to that of the principal?

Principal

The principal was interested in research on the Achieve programme from the outset. He avidly read feedback reports and on occasions invited the researcher to his office for discussions. At times the research verified his hunches, at other times he found feedback 'reports' revelational. He was open to suggestions made and willing to trial ideas:

"The principal mentioned to me that a sub-committee had been working on a revised form of the plan book for next year. (This was a result of the first 'feedback report' suggesting weekly rather than daily parental signing; and teachers wanting more detail recorded.) The school roll check has been changed with teachers now checking it (rather than students who were ticking friends as being present when they were absent). Now teachers indicate what rooms students are in (less easy for students to pretend they are somewhere when they are not). This way, ten minutes into the period the principal can quickly locate an Achieve student if necessary. He envisages a large chart showing student progress of completed units, compared with the number set to do for the year... He is interested to know whether self-motivation is the critical factor, having noticed variable work outputs from various students..." (FN 4003 11/6/92)

The principal seemed interested therefore in quantitative data on student activity and progress. He explored ideas of his own, but also collaborated on other matters. For example, the principal spoke with the researcher about the school's intentions to survey the students and wondered what suggestions she might have. The researcher drafted out some key questions (based on her observations and student responses during recent interviews) which the principal considered and on which he subsequently based a survey (FN 4011 11/6/92). The teachers administered and analyzed the results - an opportunity for direct ownership on the data collection phase, and the first indication of interest in systematic data.

The principal rarely chaired or dominated staff discussions on the Achieve programme. He believed in a democratic style of leadership and preferred ideas to come from the staff. However, he had an advantageous vantage point from which he saw the programme as a whole, rather than the classroom focus of the teachers. This perspective, combined with his desire to consider points raised in the feedback reports, caused him some disquiet:

"The principal spoke to me of the contradiction they were experiencing between the philosophy and practice of Achieve. About 30% of the staff could not see that teacher-directed classes were taking 'control of learning' away from the students - the antipathy of Achieve. He spoke of one teacher being quite cynical despite claiming to be open-minded. According to the principal this teacher had been a very successful 'teacher control' teacher and probably had the most change to implement. He spoke of another teacher being excellent." (FN 6045 12/10/92)

In not teaching a class the principal did not appreciate the day-to-day difficulties

encountered by the teachers. He also had time to consider the philosophy of Achieve and understood its intentions more readily than most teachers. He was thus impatient at times with the teachers for not implementing what had been discussed at previous staff meetings. The impatience led to direct intervention at times:

"The principal took me aside to say he was beginning a school review shortly. He was fed up with teachers not doing what he wants, such as pupil conferences..." (FN 1016, 19/7/93)

What did he think of the action research in general?

"The independent and professional assessment and advice has been absolutely invaluable; both in the way it is done and what we get from it..." (interview Sept.93)

but how did he intend collecting and analyzing data in the future?

"We intend to draw on your questionnaires and evaluations, continue the PAT testing and liaise with QHS..." (interview, Sept. 93)

The principal, unfortunately, was still reliant on an outside evaluation. He had not moved with his staff in his readiness for first-order inquiry, apart from requesting discussion questions from the staff, which formed the basis of the final staff meeting discussion. What part did the 'outside' researcher play in the evolution of action research in this study?

Researcher's reactions

The writer's experience in research had been in ethnography and thus throughout the study, she, along with the school people, developed awareness, understanding and skills in action research. Developing one's own confidence as an action researcher was a necessary prerequisite to assisting teachers. A balance had to be found in conducting systematic research, without jeopardising the natural setting of the school. Care was taken to avoid negatively affecting the setting (that is, in not making undue or seemingly artificial demands on teacher time or skills, such as deciding against implementing teacher journal writing), while still endeavouring to adhere to action research principles. Inevitably some compromise had to be made.

As Altrichter, Posch and Somekh (1993) state where outsiders are involved, their role is to "provide support and not to take the responsibility and control over the direction and duration of the project." (P.6) This ideal posed a dilemma for an outside researcher has objective space and time to reflect, is able to collect data more systematically, read relevant literature, and yet is thwarted from actioning what s/he values and believes needs to be changed. Only indirect means were available by collecting detailed field notes, document analysis, asking thought-provoking questions in teacher and student interviews, and by reporting back the 'gaps' or contradictions. The teachers were then in control of deciding whether or not to act on such data. It became apparent that they needed help with reflection, collaboration and chairing

(action) skills.

In order to persuade teachers of the benefits and relevance of research - a foreign experience for many of them - it was important to be supportive of teachers in their innovative programme and relate to them almost as a fellow teacher, while simultaneously identifying relevant areas in need of improvement. Apart from pursuing questions of prime interest to them, and questions to which they were initially oblivious, occasionally it was deemed appropriate to provide possible suggestions, sources of reading literature or pertinent teacher development avenues. These resources assisted in part in addressing the research issue of reciprocity (such as the above example of assisting the principal in devising the student survey). Being an additional resource had to be acknowledged, particularly for collecting, analyzing and reporting data.

With action research, particularly as an 'outsider', one has the responsibility to diminish one's own influence and empower the first order (Elliott, 1988) researcher in the schools. This transition requires considerable skill and experience, which were only developed over the course of the study. The influence of the role modelling effect of an outsider, particularly in being a catalyst for reflective thought cannot be under estimated.

In order to further the writer's development several research techniques were used. Hunches and hypotheses were not only recorded in field notes, alongside and at the conclusion of pertinent observations, but analytic memos became a feature in the second half of the study. Two brief examples from field notes illustrate the researcher's own development:

"On reflection I discerned a few different levels in my own role and some hypotheses about the programme to pursue.

1. I guess I am helping to bring theory and reality closer together by assisting teachers (holding up the cracked mirror), showing them aspects at which they might look more closely. I cannot say you have got to do this or should do this (devise the action plan); all I can do is say this is how it appears to be and wait to see on what angles they choose to act.

2. Developing the theory so that the theory better matches the reality: methodology, evaluation of programmes - evaluation theory needs attention; administration; content (learning styles; independent learning; tension between individual and cooperative learning). I hypothesise that if students really are independent learners (aware of their own learning - metacognition) one could suppose they would be better equipped for cooperative learning; cooperative learning in the sense of helping one another learn.

I observed today, during period four, three students concurrently folding origami. It did not seem to occur to them to help each other, offer suggestions or to ask how to do it. When they got to their next step they would say "Ha ha I can do it". There was no thought of saying "Hey this is what you do next, or how did you do that bit?" If they were aware of what

they were doing, in a reflective self-awareness way, then they may be better equipped to see where others needed help, or the step that helped their own learning.

Self-awareness relates to student interaction with teachers, as students need to learn to ask more specific questions of teachers in order to assist their learning. The questioning does not seem sufficiently precise to enable teachers to help them. WHS teachers keep telling me that their students are at the lower end of the range and that they have very few bright students. Is it self-fulfilling prophecy? Perhaps teachers could play a role here in teacher questioning (may need teacher development) in role modelling questioning, teaching styles and strategies; the process they are going through, questions to ask, probing questions (why do you think that, what made you think that) and rewarding students for that process development.

In the feedback 'report' I have attempted to return to them what students and teachers have said in their own words. I have not said anything about social development, lack of forum time, nor the need for cooperative learning and group tasks. During term two I intend looking at group tasks, and structured cooperative tasks set for the students, to not only monitor their actual occurrence, but hopefully to develop some hypotheses on the relationship between independent and cooperative behaviour. It is all very well to have good work habits, to work independently, to set their own goals, to achieve them, have time management skills - but the students need to learn to interact appropriately with others. I must also examine Maori students and learning issues (styles, approach, group phenomenon and relevance of learning)."
(Transcribed to FN 3048 4/5/92)

Analytic Memo 8/9/93

If one concurs with the notion of different learning styles - visual, aural, kinaesthetic - then surely this also applies to action research. If, as authors argue, that action research needs to be collaborative, then why does it have to be dependent on writing skills (Winter, 1987). Why not develop teacher's discussion skills to be reflective rather than writing skills in action research? eg WHS - staff meeting discussions became increasingly reflective. If JP had insisted on writing reflections, the action research process would most likely have ceased immediately.

JP argues that one should use what teachers are good at and enjoy doing - ie discussing ideas with colleagues ie contextual action research which is relevant for WHS staff meetings.

Teachers need to have thoughts/ideas challenged by others, to consider alternative ways of viewing things - discussion forum ideal for this. (Most reflective people are spiritual monks - reflective thinking rarely written down).

Through such reflection-in action and reflection-on-action (Schon, 1983), insights

were gained from which contribution to the literature and methodology of action research are made in this thesis. Reading of the action research literature (such as Elliott (1981), Kemmis (1988, 1989), Winter (1987, 1989), Adelman (1993), Whitehead 1993) revealed several assumptions relating to teacher reflection. It is assumed that teachers can and want to reflect, that reflections always result in positive growth, and that problems or contradictions can be solved from reflection alone (and not access to outside experts, especially in-service development for teachers). These issues are examined further in the final theoretical chapter.

Not only was the writer's development as an action researcher rather challenging, but more exacting was the challenge to develop the teachers as action researchers. It became apparent that teachers lacked the necessary reflective skills, awareness that issues existed or that situations could be monitored and changed, and were deficient in the requisite research and problem-solving skills to engage in effective action research. The need for staff development in evaluation, unit planning and research skills, fundamental to both the Achieve programme and teacher action research, required continual suggestion in feedback reports before teachers fully realized its importance. Dealing with these issues is the content of the *Emergent Themes* chapter.

Evolution of action research at WHS required building relationships of trust and support amongst insiders (students, teachers and principal), and between the insiders and outsider. Once people developed a sense of security with one another, and in a sense with the innovative programme, a gradual awareness and critical focus could be established. Interviews were occasions for stimulating reflection. Providing feedback data simultaneously endorsed teacher and student efforts in the innovation, and allowed the perception of potential areas for improvement to emerge. Individual and group reflection grew as contradictory situations were portrayed and were challenged in forums of open discussion. Towards the end of the study, one teacher devised his own action research project, with several other teachers appearing ready to embark on similar studies. The outside researcher, having modelled data collecting in both qualitative and quantitative forms, analysis and questioning techniques (and empowered the teachers in these skills), was able to withdraw from the school.

2. WHICH ACTION RESEARCH PRINCIPLES WERE FUNDAMENTAL TO THIS STUDY?

Action research is based on numerous principles, as explicated in the theoretical methodology chapter. Of importance in the following section, are the principles which governed the actual action research conducted in this study. The principles are discussed under two general headings: those related to school culture, and those related to the mode of enquiry.

Culture

The most pivotal principle in this study was responsiveness to context (Lomax, 1991). WHS was a complex organisation with a number of different players: students, teachers, principal and researcher as the visible players; with parents, the wider

community, Board of Trustees, Ministry of Education, New Zealand and the international educational community being less visible. The research needed to simultaneously embed itself in the natural setting, while being mindful of its ultimate mission of improvement of understanding and practice, and thus incite reflective and critical discourse. Consequently, the decision was made to not impose writing on teachers. That is, the researcher did not ask teachers to keep diaries or analytic memos. Instead, she used the established organisational structures of staff meetings, written memos and newsletters to stimulate reflective thought and discussion. Staff decided to devote periodic meetings to discussing feedback 'reports'; the first each term with the researcher, but several other meetings (without the researcher) were devoted to further philosophical and practical discussion.

Notwithstanding respect for the natural setting, teacher and student interviews each term were an interruption to the context, in that teachers used their non-contact period to discuss issues with the researcher. Requiring only 40 minutes per person every four months, was not a major imposition however. Interviews also served as a conscious interval of retrospective and introspective reflection on key questions concerning the current programme. Such data formed the basis of the feedback reports, thus stimulating reflective thought prior to, during and after the interview as teachers contemplated likely discussion points. This activity encouraged the art of reflexivity (Winter, 1989), where questions were asked and the seeking of truth pursued. In presenting this collated data shortly after the interviews, teachers were able to determine the extent to which other teachers' views converged or diverged from their own; in addition to supporting or refuting the researchers' analyses. Contradictions within the subsequent discourse signalled the process of change (Winter, 1989), as well as deeper reflexivity. Teachers realized alternative ways of viewing a situation and thus saw knowledge as having a temporary and situational base (Winter, 1989).

The question of objectivity was also at the forefront as teachers asked one another to explain points of view. The explanations encouraged development of an exploratory stance and awareness of their own value biases. Because teachers were given the freedom to discuss whatever issues they wished as a result of the feedback reports, they developed ownership for the problems. Issues were clarified and commitment to the process and potential intervention grew. Teachers had freedom to experiment (Lieberman, 1986) with ideas and indeed with practice within their own subject areas. Some self-determination was therefore made possible (such as the monitoring of homework, as mentioned in chapter six). At times self-determination required challenging and altering relations of power (McTaggart and Singh, 1986), as they needed to convince other members of staff, particularly senior members, of their interpretation of the philosophy of Achieve and its implications for practice.

A mutually agreed ethical framework (Elliott, 1978) emerged during the study, rather than being finalised at the outset. The researcher influenced teachers and students in this regard. Students who were selected for interviewing received a letter at home. The letter explained the reason and context for interviewing, and sought consent from both parents and the student concerned before interviewing began. One parent and

a student (not related) declined and were subsequently replaced. At each interview students and teachers were assured of the confidentiality (Watt and Watt, 1993) with which their information would be regarded and that only trends and numbers would be identifiable and reported, not the personal source. At all times interviewees were given the option of not responding to particular questions if they wished. This option was however, rarely taken. Only teacher interviews were taped, and only with each teacher's permission. One teacher declined, for cultural reasons and notes were taken in this instance. With students only written notes were taken. When data was presented it was always presented in such a manner as to disguise identity. At times with teachers' results, this meant, numbers of responses were not always given (to avoid identification of minority views), thus compromising the principle of accuracy, while preserving the principles of confidentiality and respect for persons. In interviews information requested about other participants was always declined, except if general trends were able to be supplied (such as 'most students think this...').

At times the principle of confidentiality posed dilemmas for the researcher, for example, if a student spoke of undue pressure from a particular subject or general malaise with school. A solution was found in the staff meetings which periodically discussed student profiles and individual progress. When the particular student's name was mentioned the researcher would ask a seemingly innocent question like, "How happy is X at school?", or listen to perceive teachers' awareness of the students' problems. Alternatively she might offer information from classroom observations, such as, "I've been watching X and s/he seems to be distracted in group situations but works consistently on individual tasks. Do my observations concur with yours?"

When however, several students noted or complained about an issue then the researcher asked the students if they would like her to mention the issue to the teachers. When agreement was given the issue was given prominence in the feedback report (such as the contradiction between deadlines and the supposed freedom to 'work at your own pace'). The researchers' offer was deliberate, to demonstrate to students that their information was valued and acted upon, and that they could influence change. It also proved to teachers the value of eliciting student views and thus involving them in the collaborative process. The ultimate aim was however, to empower students to do this themselves. By the final interview several students had developed confidence and strategies to ask the teachers directly.

With teachers, the interviews occasionally served as a 'safety valve' in voicing thoughts and opinions that they could only say anonymously. An outsider is often given tolerance or freedom to voice aspects of the culture that would be forbidden or perilous for an insider. Care was taken not to be hijacked (Elliott, 1978) however, so that concerns needed to be perceived as either being beyond personal grievances or of an enduring nature.

The above extracts from staff meetings and interviews attest to the development of a culture of support in which teachers (and ultimately students) could share in the dialogue and discourse, sometimes risking taken-for-granted assumptions, status and

control (such as the importance of homework, student variable behaviour on consecutive periods, variety of teaching and learning modes). A friendly atmosphere prevailed, as suggested by the frequent outbursts of laughter. Relatively democratic relationships were evident in people sharing the chairing of meetings and all contributing to discussion, although domination occurred at times. Audio-tape and photographs (Walker, 1991) would portray more vividly the underlying power struggles than does a written transcript. (Photographs during meetings would have been insensitive to the context, however). One teachers' tendency to cut in on other people while they spoke, and at times to speak over top of them in timing and volume intimated dominance and power. Body language displayed teachers' frustration at being interrupted in discussions, although they managed to contribute points at length on other occasions. Nevertheless, considerable development in reflection and shared discourse was evident between the first and last staff meetings.

A critical community (Kemmis, 1988) did begin to emerge. Teachers showed a willingness to reflect, experiment, discuss alternatives and collect data independently of the researcher, as is seen in the extracts from the final staff meeting in the chapter on the *Five Cycles of Action Research in the Achieve Programme*. True equity and freedom (Kemmis, 1988) did not exist however, and contributed to a different reality from the theory of action research. The principles of responsiveness to context, confidentiality, and creating a climate of self-reflection, reflexivity and critical discourse were the predominant principles in the school culture.

Mode of Enquiry

Although responsiveness to the context necessitated occasional compromise of the principles of accuracy and complete data (such as taking notes after the event as opposed to tape-recording a conversation), every endeavour was made to ensure that data was valid, reliable and that rigorous research was undertaken.

Validity concerns the correctness and accuracy of data (McTaggart, 1991). Observational notes were recorded in as much detail as was physically possible. Details were recorded of the setting, location, date, time, personnel present, and as much verbatim conversation as possible. Frequently students and teachers were asked about the content of learning material and activities to ensure correctness of observation. Teachers were often spoken to during and after teaching periods to verify details and elaborate on any uncertainties. Students often helped the researcher in identifying students who were the subject of observation and in explaining their interpretations of lessons, units or activities. Casual conversations with students allowed the researcher to ascertain the extent of observations and confirm emerging hypotheses. Similarly, morning tea and lunchtime conversations with teachers provided opportunities for both the researcher and teachers to clarify meanings.

Teacher interviews were taped and subsequently transcribed, ensuring that all responses were recorded. Probing questions were asked where clarification was necessary. Winter (1989) argues that action researchers need to question and test opinions, assumptions and ideologies, so that eventually the understandings and

practices are more securely based (more valid) than at the beginning of the study.

Although the interview questions were predominantly structured, deviations were tolerated when alternative issues arose. Collation conformed to stipulated decision rules (Miles and Huberman, 1984). Further details on procedures occurs in a following section. Ultimately validation of action research findings is found in translation of theory to practice. The subsequent chapters of the thesis are testimony to the validity of this study.

Reliability (consistency of results) was ensured by the convergence of views between interview responses of teachers, students, principal, the researcher's observations at multiple sites and numerous occasions, parental surveys and, where relevant, test results. Such a procedure is frequently referred to as triangulation (Elliott, 1985). Where discordance arose, further observations were undertaken and questions pursued in either informal or formal interviews.

Nevertheless, caution was taken to not disregard divergent views. Where students' views differed from teachers, closer observation was undertaken and follow-up questions asked in subsequent interviews. Acknowledgement of diversity in action research is necessary however, for views did vary within population groups, with students and teachers holding a range of views. In a small school, a majority opinion was not always possible, but where a view endured several interview occasions it was considered to be of greater reliability. The challenge for the outside action researcher lay in determining stability and validity of views, while simultaneously discerning sites of change and improvement.

Verification of data, analyses and conclusions amongst participants and the application to practice, rather than generalisability were the hallmark of reliability in this action research study.

Detailed written records of observational data, hunches, opinions, insights, interview extracts, excerpts from field notes, summary charts and tables, all contributed to a disciplined form of enquiry, and moreover, validity of the study (Forward, 1989).

3. WHAT ACTION RESEARCH PROCEDURES WERE RELEVANT?

A wide range of research procedures were relevant in this study. The basis of the techniques was discussed in the theoretical methodology chapter. Examples of each technique used is therefore given in this section without elaborate description.

Observational notes

Observational notes were able to be taken from first entry into classrooms and staff meetings. Early observational notes recorded more details of the setting than later notes, although student seating arrangements and classroom layout were frequently drawn. A column was left empty on the right-hand side of the page for the researcher's reflective comments and questions, developing hunches and hypotheses, recording relevant detail discovered after the event, and for coding purposes in the

data analysis phase.

Observational notes included verbatim conversations, interactions amongst students, between students and teachers, time-event sampling, running commentaries of selected students and teachers, content of staff meetings and assemblies, and professional development sessions.

Examples of observational notes are found in Appendix A.

Questionnaires

Questionnaires were used only with parents on two occasions. The small size of the school population enabled observations and interviews to be sufficient data collecting devices with students and teachers. Assistance was given to the principal in designing a student survey.

The parent questionnaire was designed to facilitate triangulation of data with that gathered from student and teacher interviews and observations. The researcher wrote the first draft of questions, based on student and teacher interview responses and observational notes. Teachers were then given the draft copy to make suggestions or changes and to write any questions on which they wanted information. Pertinent modifications were subsequently made to the vocabulary used in a few questions and teachers suggested new questions. This strategy proved to be useful for several reasons. The resultant questions were more appropriate to their parent population, teachers felt some ownership in the questionnaire design and hence were more interested in and committed to the results, the questions had greater validity, and teachers were more open to modifying the programme according to parental responses.

To ensure quick and simple response, objective Likert item types were used, with a few open-ended questions at the end of the questionnaire. Questionnaires were given to every pupil in the Achieve programme to take home. Parents were able to post their reply anonymously and directly to the researcher in a stamped-addressed envelope. Inevitably some questionnaires were mislaid or lost on route home with the students, so a second issue was posted to the non-respondents three weeks later. A response rate of 70% was achieved.

Results were collated, analyzed and returned to the school. The principal inserted the results into several school newsletters so that parents received feedback from the questionnaire. Teachers were able to compare parent opinion with their own and that of the students in the relevant feedback report. Results are found in chapter six, and an example of the survey in Appendix H.

Interviews

Student and teacher interviews were conducted each term. All teachers were interviewed, usually throughout one school day. Teachers either used their non-contact period to free themselves for interviewing or released one another for interviews. The average interview required 30-40 minutes. Although all teachers

experienced the same basis of questions, the actual interviews varied according to issues explored and the degree of reflection or critical consideration teachers gave to particular questions. Each teacher was interviewed individually, in a closed office at a remote part of the school. Complete privacy and confidentiality were assured.

For the first year teachers only encountered the questions during the interview (although a prior indication was given of the general direction of the interview), but in the second year teachers were invited prior to the interview date to suggest or submit questions for the interview. (Very few suggestions were made for their own interviews, although suggestions were forthcoming for the student interviews and parent survey). During the second year all questions were made available to the teachers prior to the interview. This practice resulted in some of the teachers giving more considered responses, and often bringing material to the interview to support their claims (such as student work samples, examples of their own planning or monitoring). A future study would see prior notification of interview questions given to all participants.

Teacher interviews were, with one exception, taped. Permission for taping was sought from interviewees prior to each interview, with the offering of the alternative of written notes. The purpose for taping was to allow the researcher full concentration on the content and delivery of the interview without the hassle of pausing the interviewee while notes were made. Transcriptions were subsequently made, from which summaries and collated charts of the teacher interviews were constituted. Although the researcher had details of frequencies and full quotations, only pertinent phrases were reported back to staff, in order to preserve anonymity. Occasionally synonyms and the passive tense were used to disguise identity if confidentiality issues were deemed to be at stake. At all other times faithful use was made of the participants' own language.

Student interviews were also conducted each term. Their interviews were of shorter duration, normally 10 minutes. No tape recording was made, to reduce student anxiety, although notes were written throughout the interview. Students' laconic replies meant this procedure was more than adequate. Selection of students for interviewing was made by the researcher. Six students from each class level were chosen, that is, from one to form five in the first year and these same students were followed through into the subsequent class level the next year), 36 students in total (six new students were interviewed in the second year). Ethical procedures were described above to ensure agreement for interviewing.

At each interview students were assured of the confidentiality of their replies, that general patterns only would be reported to teachers (so that they could act on changes suggested by the students), and that if students felt uncomfortable with a particular question they were under no obligation to respond. Throughout the first year students were interviewed individually in a closed office at an end of the school removed from the administration block and main classrooms. The venue remained the same in the second year, but for the last two rounds of interviews students were given the option of pairing up for interviews if they wished. Two pairs of students opted to do this.

A future study would provide this 'paired' option from the first interview. Although individual interviews were conducted to ensure privacy and to counteract peer pressure, on reflection several students would have felt more relaxed and more responsive in the early interviews with a friend present. The double interviews suggested that students stimulated ideas with each other and frequently elaborated further on responses (particularly critical comments) than they did individually. On the other hand, some deference occurred if one of the pair was slightly more dominant, and researcher intuition intimated retention of occasional opinions when an interviewee felt their partner might disagree.

Tests and Learning Inventories

Progressive Achievement Tests were administered in the first week of March in each of the two years of the study. These tests are New Zealand standardized achievement tests in the curriculum areas of: Mathematics, English (listening comprehension, reading vocabulary and comprehension) and Study Skills. The tests were used as a point of comparison between the early and later phases of the research and to gain an indication of achievement levels compared with students throughout New Zealand. Quantitative data supplemented the qualitative data collected during the study.

In order to integrate the research into the school's programme and its natural setting, teachers were invited to administer the tests, although the researcher later scored and analyzed the results. Such a strategy conformed to more normal procedures for the students rather than causing undue anxiety through the researcher administering the tests. The school usually administered the reading tests, so that the Study Skills were the only new tests. The symbiotic relationship of teachers administering and the researcher scoring, analyzing and reporting back results meant ownership and interest in the data was shared. Teachers were left however, to act upon the individualised profiles of students' learning needs.

A Study Skills and Learning Inventory designed by the researcher and two other colleagues at the Achieve pilot school prior to involvement at WHS, was used to supplement PAT data. The inventory was designed specifically for the Achieve programme to determine student's strengths, limitations and preferences in particular study strategies. Again, results were scored and analyzed by the researcher and returned to tutor teachers in order for them to act on the individualised student data.

Still Photographs

Photographs were taken in several classroom settings towards the end of the study, once the researcher was fully accepted by teachers and students. The photographs were to be a record of the setting and to illustrate arguments made in the chapter on the *Five Cycles of Action Research in the Achieve Programme*. Photographs can enhance a study's validity for they do not carry the cultural baggage of the written word (Walker, 1991) and allow for greater interpretation by the reader. Although the camera can be directed to include and exclude certain features, each photograph contained a different feature and purpose, such as showing classroom layout, a diversity of individual tasks, group work, and teacher monitoring.

Analytic Memos

Analytic memos were written by the researcher. An example was given in an earlier section describing the evolution of research at WHS. The memos allowed the researcher to record emerging themes, hypotheses, question current understandings and practices of her own and that of the participants, and generally to record and to clarify her thinking. As time passed some of these memos became superseded, discounted or redundant. Others served as catalysts for developing theory in the thesis.

Triangulation

Triangulation was used to verify data. Three types of triangulation were used in this study (McKernan, 1991):

- a) *different investigators* - perceptions of different people were tested against one another, in terms of data collected. This meant that teachers' views were compared against their own views on previous occasions as well as against other teachers' views. Similarly, with students the same process was undertaken. Emergent themes were tested for frequency and degree of congruence amongst: students, teachers, principal, parents, and the researcher.
- b) *informational* - various settings were compared, such as each of the different classrooms, assemblies and staffroom interactions
- c) *methodological* - a range of methodologies was used: observations, interviews, questionnaires, document analysis, appropriate academic literature, quantitative test data.

Interview responses were verified against what was observed or recorded in written documents or tests. The researcher examined her own observations by frequency accounts where relevant, noting patterns and themes, clustering, making contrasts and comparisons, checking for researcher effects and recording these, seeing plausibility (Miles and Huberman, 1984), looking for negative evidence, noting relations between variables, finding intervening variables, and making conceptual and theoretical coherence.

Thus, a variety of research procedures were undertaken in the action research study at WHS.

4. HOW DID IT DIFFER FROM UK AND AUSTRALIAN STUDIES?

This study differed from the UK and Australian traditions in several ways. The recent trend in the UK has been of teacher empowerment with minimal or no direct involvement of outsiders (as indicated in the theoretical methodology chapter). Instead, most reported action research in the UK has been based on the formation of networks of teachers beyond the school, frequently containing people continuing their university studies and thus being extensions of tutorial support groups (Whitehead, 1993). These people (frequently practising teachers), are familiar with educational theory and committed to the process of action research. The need for outsiders is therefore minimal. These teachers act as catalysts and role models within their own schools in conducting action research. Support is gained from the outside networks,

where ideas are shared and challenged.

In contrast, the study at WHS involved teachers who were not engaged in further academic study and who were in relative professional and geographical isolation. Action research is in its infancy in New Zealand with the implication of few exemplars to follow. Teachers were therefore unaware of the concept, let alone the realities of action research. Consequently, action research needed to begin at its fundamental core, development of reflective skills, the art of dialectics; and the resource of an outside researcher. Although developments throughout the study resulted in teachers being ready to conduct their own action research projects, much of the study involved development of awareness, reflection and creating the appropriate school culture for action research.

It was therefore impossible to develop the 'Australian' notions of critical community, emancipation and epistemology with the participants themselves. These concepts were very much part of the researcher's consciousness throughout her work with the participants however, as she reflected on her own developing understandings and practice (as intimated above). These insights resulted in a gradual empowerment of teachers (and ultimately the students) to become independent, with the short-term goal of the researcher's withdrawal from the site and the long-term goal of continuing research by the insiders.

The WHS study therefore had a pragmatic dimension in its cycle of data collection, analysis, report back, review of ideas and informal devising of action plans. The Achieve programme was described, evaluated and modified with influence not only from the outside researcher, but through input from students, teachers and parents. On a more theoretical dimension, teachers developed greater understanding of the philosophy of Achieve and consequently realized educational values in practice. They developed greater objectivity in being more aware of their value-biases, a growing willingness to make them explicit and an open attitude towards inconsistent evidence (Elliott, 1985).

Although the study had the practical focus of the UK and underlying consciousness of the notions of critical theory, the WHS action research study differed markedly. Such differences are made explicit throughout this thesis as contributions are made to new insights into the development of reflection and readiness phases for action research.

CONCLUSION

The action research methodology utilised in the WHS study indicated some modification to that described in the *Methodology in Theory* chapter. Responsiveness to the context required the use of normal meetings as opportunities for the development of reflection-on-action, discussion and critical discourse. It was in discussion that teachers shared meanings, discovered contradictions in the practices of themselves and their colleagues, and gained new insights. The substance and indeed catalyst for much of this critical reflection and discussion was the 'feedback

report'. These reports contained observations and interviews conducted by the outside researcher. Initially the lead was taken by the outsider; responsibility for the research was gradually given to the teachers as their recognition of the value of research grew, their research questions and data collecting techniques developed. Matters that had formerly been taken-for-granted by the participants came to be questioned and alternative ways of operating were deliberated. By the end of the study teachers had made explicit their implicit understandings of Achieve and were modifying their practices accordingly. The processes and modifications of substance become the subject of the next chapter, *Five Cycles of Action Research in the Achieve Programme*.

CHAPTER SIX

FIVE CYCLES OF ACTION RESEARCH IN THE ACHIEVE PROGRAMME

INTRODUCTION

Five action research cycles are pursued in this chapter (coinciding with the five school terms¹ in which the researcher was involved with the WHS Achieve programme). As described in the theoretical methodology chapter, Lewin advocated an action research cycle which consisted of developing a plan of action, acting to implement the plan, observing effects, and reflecting on the effects as a basis for further planning and subsequent action. A myriad of variations based on the notion of cyclical action have subsequently arisen amongst writers in the field. One such example is that of Elliott, who developed the spiral concept by arguing for a **series** of spirals at each stage to incorporate every research moment. The present study is based on a series of action research cycles, but the sequence differed from that above. Each action research cycle contained phases of:

- a) observation
- b) reflection
- c) exploration of possible problems - interviews and periodic surveys
- d) feedback reporting and problem formulation.

In this chapter the action phase is incorporated into the subsequent cycle, with evidence of action being sought in the observational, exploration and problem formulation phases². Thus the action research cycles of the outside researcher provide the explicit structure for the chapter, while the evolving understanding, improved practice and action of the participants is explicated in the substance of the cycle's case studies. The chapter structure demonstrates how interview questions emerged from the observations and reflections, and thus stimulated the process of teacher interest in and responsibility for action research. The process of teachers' gradual awareness and understanding of the philosophy, intentions and actual practice of the Achieve programme, (the content) is interrelated with the development of a second-order and gradual transition to a first-order action research study (the process).

CYCLE ONE - TERM 1 1992 (February-May)

1A OBSERVATIONAL PHASE

DAILY ACTIVITIES IN ACHIEVE

In order to build a conceptual picture of Achieve, the first cycle contains mainly

¹Each term spans approximately 13 weeks; interspersed with school holidays of 2-6 weeks duration.

²The researcher provided data, reflection material and potential discussion questions, but the participants made the decisions on the **action** strategies.

descriptive passages. It shows preliminary observations and sets the scene for later cycles. A typical day in the Achieve programme began with a morning staff meeting.

5/3/1992 FN 0144

All teachers were present (11). The Deputy Principal had responsibility for leading these morning meetings. However, once his announcements were made staff reported their various notices eg. the Physical Education teacher commented on the previous day's swimming sports. R. then reminded the teachers of the PAT Study Skills testing programme today and tomorrow. Arrangements were also posted on the white notice board and had been in the daily bulletin so that students were pre-warned... A Maori teacher then conducted the daily brief Maori lesson, ie pronunciation of vowels, correct pronunciation of various place names and a new word takamori 'slowcoach', which amused the teachers."

These meetings were attended each day of the researcher's fortnightly visits. They were primarily an opportunity to inform or remind colleagues of administrative details. Frequently the subject of fundraising featured, along with various sports organisation or assembly notices. The fortnightly Achieve meetings after-school were the designated forum for lengthier discussion.

Immediately after this meeting the first period of the day began. Teachers were allocated particular classrooms, according to a set timetable, but students were able to select their own subject and room for study. An excerpt from a first period illustrates initial reactions:

7/2/1992 FN 0105

"Eleven students are present in the room. The classroom is very quiet with 5 groupings of students. Brief comments, only just above a whisper, are exchanged between the students:

G1: You should see where Amy is up to - this page.

G2: That's only a page ahead of you... Are you allowed to put felt in it?

G3: shrugs her shoulders

G2: Can I borrow your pen? (G1) (a multi-coloured ball-point).

G1: Yeah, this one is easier. (Puts her hand up)

The teacher comes to her.

G1: Do I write out the questions?

T: Yes, because you remember the answers better then. Now do you know where you will find the answers?

G1: In the maps? In the library?

T: Did you read this page? (turning it back one)

G1: Yes.

T: Good, well you'll find the answers there then...

11.00 am The classroom remains quiet as students work on individual tasks at their desks. The teacher walks around, looking at what students are doing and asking questions, eg. "Do you have trouble reading? ... Why don't you go to the next page and leave that map drawing until you get your book?..."

This extract illustrates how quiet students were at the beginning of Achieve. They were often reluctant to ask questions of the teacher and when they did, were often unsure exactly what they needed to know. Teachers also required several questions before they probed the central problem. Student interaction was limited. They were unsure of the extent to which they were allowed to talk, so that brief conversations were predominantly related to the exchange of equipment and not to helping one another understand the work. The extract implies students' reliance on teachers to explicate written instructions and their confusion as to where to locate information. Students did not appear to have independent research or study skills.

The next period of the day consisted of a twenty minute 'tutor time'. This time was to allow students to plan their day and ensured that their tutor teacher checked the planning and distributed necessary notices. An example from the fieldnotes illustrates the typical activities of this time.

20/2/1992 FN 0130 9.45 am

"A 6th form girl is writing important notices on the board.

Notices: F5 P5 Bring all English work

F2 P2 R4 Friday - Newspapers Study

R2 P2 Not available for Achieve today

F2 R11 Interval - Meet today; bring Maori Studies book.

The room is fairly quiet - Mr S collects yesterday's pie graphs while students fill in today's. He checks their planning against the 'room availability' and 'master' subject timetables. One boy wrote in more detail, eg. Maths Set 1 P6. Another boy wrote in his yellow workbook: "Swimming - 'teacher-directed'. He told me that if they did not know what they were doing they could write that. The bell rang and the teacher said they could go, having signed all of their pie charts (planning)."

The fifteen minutes passed very quickly as the teacher briefly interacted with each student, collecting the previous day's planning and checking for teacher signatures (to ensure that the student attended each period) and parent signatures, and a brief glance at the overall planning. Some teachers were more efficient at this task and more alert to details, such as subject balance. Immediately following this tutor time, morning interval occurred. Except for the teacher on duty and periodic sports practices or related meetings, the staff gathered in the staff room. Conversations were generally of a social nature or the confirming of minor administrative matters with other teachers.

Two further periods followed morning tea and preceded lunchtime. An excerpt from a different classroom illustrates the teacher's endeavours to individualise student tutoring and planning:

4/5/92 FN 3007

"There are five students here today - 2 girls and 3 boys. The furniture is arranged in rows facing the chalk board - conducive for independent and individual study. One girl goes up to the teacher to have her maths unit test

marked. She sits beside the teacher at his desk and he marks the test alongside her, questioning why she responded to particular questions in the manner in which she did. In this way she receives individual tutoring. The teacher completes the marking (the interaction occupying 2-3 minutes) and suggests a unit she should continue with now... The teacher approaches another student.

T: Now, Catherine, what is your goal today?

She shows him her yellow booklet.

T: Okay... One thing I wanted to talk to you about was decimal points. If the equation has 2 numbers after the decimal point; put two in your answer. Similarly here, with one, you put one... Your science teacher would expect the same. That's good.

The teacher wanders to the next desk.

T: Now, in enlarging you draw bigger - I give you the centre; you draw the triangle again. How will you draw it bigger? (Boy explains how he would do it) To make it smaller you halve it.

B: Do you measure from there and join it?

T: Yes, then measure there, join, measure again.

B: Oh yeah, yep.

T: The same principle applies here... How would you do that?

B: .. Oh, measure there...

Meanwhile other students continue working independently. The teacher then circulates the class, pausing for about 30 seconds with each student as he signs their planning and inspects the quality and quantity of work accomplished."

Towards the end of the first term the field notes recorded increasing accounts of teachers circulating amongst the students, engaging in individualised teaching (rather than mere supervision), and asking students questions to determine the degree of their comprehension of current material rather than clarifying instructions. Some teachers had more highly developed skills for individualised teaching than others. A brief extract here provides a contrast:

9/4/94 FN 2009-2010

"One classroom contained three pupils, each of whom were sitting at separate groups of tables. Absolute silence prevails. The teacher has his briefcase open on a desk adjacent to the teachers' desk at the front of the room. He is doing some writing (maybe unit preparation for he has a brown storage box open next to him). The students are working on their own. The girl is writing, one boy is flicking through pages of the unit and reading various passages. The other boy has a unit open and is doing some writing, answering questions. The teacher then spoke to me, asking about set timetables at QHS. I told him about their two different methods... He then spoke briefly about his dilemma with students who give up and to what extent you keep teacher responsibility or hand over responsibility for learning to the student under the Achieve system..."

This excerpt portrayed typical behaviour of this teacher. He rarely roved the classroom interacting with individual students. Instead, he preferred to work at his desk fulfilling paperwork requirements. He either believed individualised learning meant minimal teacher interaction, or else lacked skills in questioning and instructing individual students. At times other teachers preferred 'whole class' teaching. This preference was due in part to their conceptualisation of a teacher's role and indeed their transforming role in individualised teaching. Many teachers at this stage of the programme felt guilty if they did not engage in didactic teaching. They felt they were not fulfilling their obligations to 'teach' the students. Teachers were however, confused as to how this class approach complied with the Achieve philosophy and were thus struggling with a dilemma. Such dilemmas affected the way in which teachers reacted with students, as an extract from one of the weekly assemblies reveals:

20/2/92 FN 0125

"A special Achieve assembly was scheduled in the hall. After greeting the students in Maori the leader of the Achieve programme addressed the students: "The library is declared out-of-bounds for study or Achieve periods as it has been too noisy. All students are to go to a classroom with a teacher. A couple exceptions will be allowed - the librarian will have a list of those names. Some students have been doing nothing. You cannot afford to do nothing. Some students are not choosing wisely. Look at your timetables. If you need help go to the subject specialist teacher. It is silly to go to a different teacher. If this silliness continues we will have to direct you to particular rooms.

Be in the classroom within five minutes in which you will be working. If you are in the wrong room and need a lot of help you will be sent to retraining. You stay in the same room for the whole period. If a room is being used for a lesson it is not sensible for you to go into that room, like form 5 English. However, if it is a science experiment of interest to a lot of people then you are welcome. Check the white notice board... Don't cross things out on your pie chart - it is there for your parents to see. If you cross it out you will go to retraining...."

Student choice of rooms was subsequently reduced, while time efficiency for students and teachers was emphasised. Underlying some of this speech was teacher uncertainty and concern in dealing with subjects for which they had not been trained. A few teachers found this variety stimulating, others found it threatening and thus advocated tighter control.

CHANGES IN ACHIEVE

Within three weeks student choice was restricted in location of learning. Because of the enormous demand of teacher time and skill in preparing units of work, the range of topics within subjects was not immediately available in three of the four subject areas. Of the units that were available, very few were designed with incorporation of differential learning needs. The vast majority of units were devised for the 'average' learner. Students therefore were not able to plan or experience

individualised programmes.

Students received mixed messages from teachers regarding the freedom to talk, and hence availability to help one another. Teachers became concerned at the copying that occurred and the constant interruptions with the sharing of basic stationery items between students. Restrictions were soon applied and opportunities for cooperative learning diminished. In one room, talk between students was not permitted; in another classroom the other extreme prevailed and social talk was tolerated. Students readily identified the 'social' rooms and the 'work' rooms and planned their work accordingly. Student numbers became uneven in classrooms and the appeal for attendance in subject rooms was heard, in fact demanded, by the event of 'teacher-directed'³ classes.

Response to such dilemmas is not unique to the Achieve programme. In the Keller Plan (Daly and Robertson, 1980) the solution was to form a 'catch-up group.' The group was assigned to one teacher for intensive tutoring until they were up to schedule. Fleming (1974), Davies (1978), Daly and Robertson (1980), all indicate that students and teachers differ in their expectations of the amount of work that can be accomplished. Nevertheless, it was a problem with which WHS had to come to terms.

The basic premise of Achieve was individualised learning programmes, at the centre of which was student choice and responsibility. This premise resulted in considerable demands being placed on teacher skill, time and development, as well as resources. Competing demands on finite time resulted in teachers constructing initial units of work that often contained collated elements from textbooks, as revealed in the field notes:

9/4/92 FN 2012 " Many of the units seem to be photocopied sections from textbooks. Some units show wider collation by the teachers, with sections to read, trace or draw, and short activities for students to do. The units look attractive - all typed and include a range of photographs, illustrations and varied print size. Students are given a range of activities: drawing, researching in the library, as well as comprehension-type questions."

The time required to construct one unit was considerable, especially as much of the preparation was accomplished in teachers' own time, thus to design units covering all compulsory sections of the syllabus was demanding of teachers. Moreover, for teachers to subsequently construct individual units, or at least units for more and less able students, was simply unrealistic. Nonetheless, units of learning were the core substance of the Achieve programme.

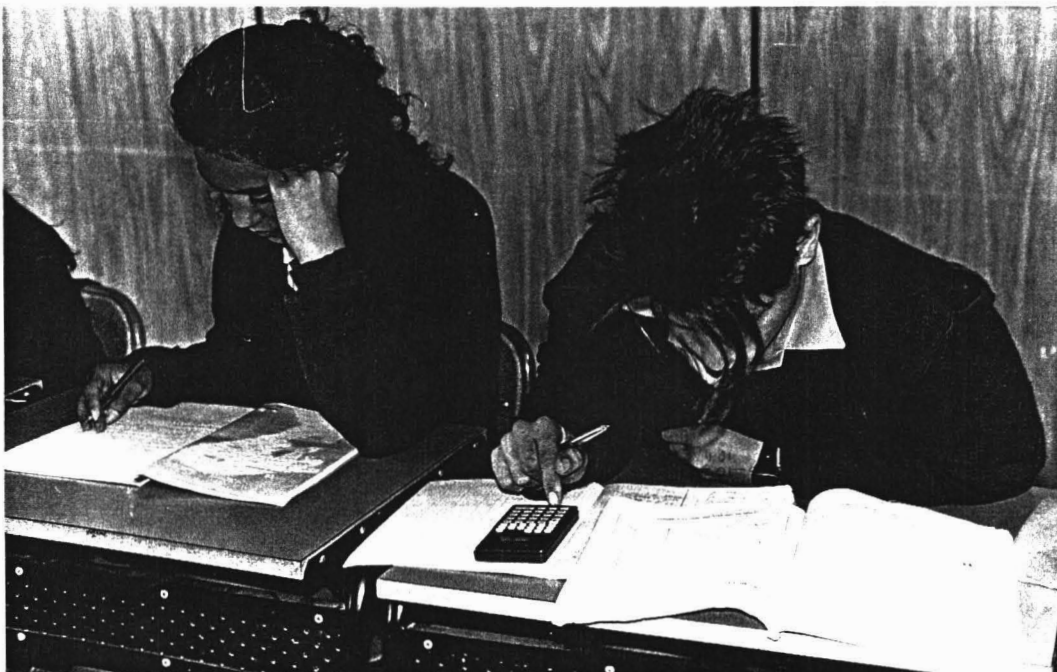
Photographs on the following two pages (112-113) portray students working on these individual units of learning, teacher monitoring and a 'cooperative' learning situation.

³Teacher-directed classes were those to which students were directed (compelled) to attend a stipulated subject, at a particular time and location. This was one means that teachers found to ensure that all students of a specific form level were together.

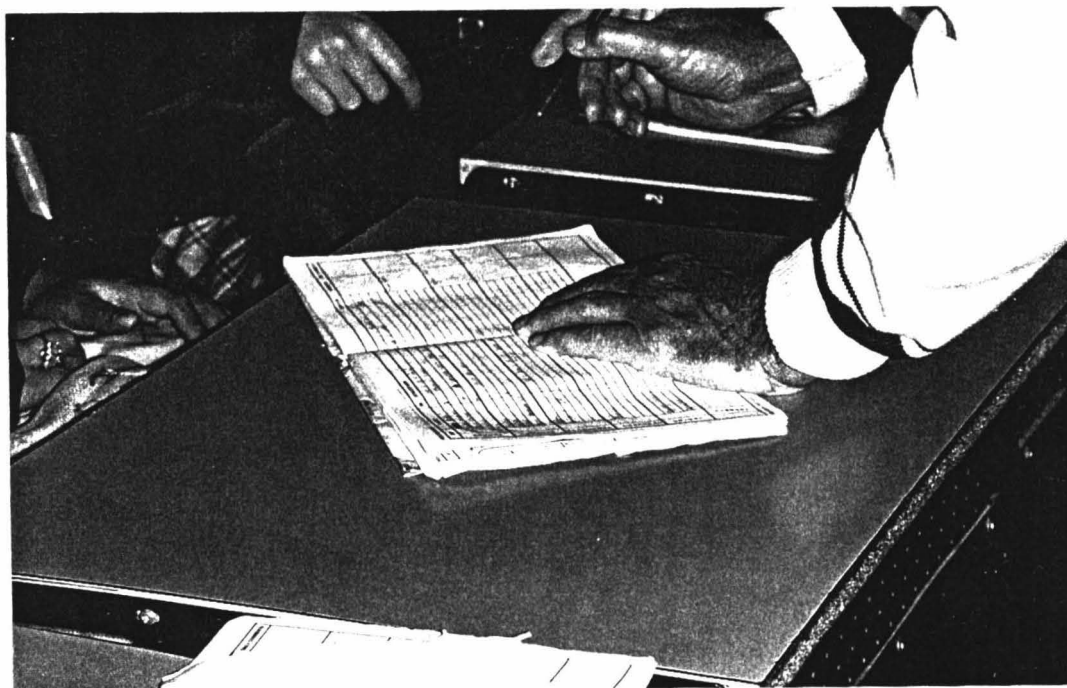
PHOTOGRAPH 1: Individual learning - students learning at different rates on varying mathematical topics.



PHOTOGRAPH 2: Students working on individual tasks.



PHOTOGRAPH 3: Teacher monitoring of student planning.



PHOTOGRAPH 4: Group work - students working together on separate tasks.



1B REFLECTION

UNDERSTANDING THE BASIS OF ACHIEVE

Field notes at this time recorded numerous reflective comments on patterns emerging within particular teacher's practices, and across the school programme. These comments also recorded the contradictions in practice compared with the theory.

Espoused beliefs and assumptions of the Achieve programme became problematic for the teachers, and to some extent the students and their parents. The following assumptions were stated in the Achieve 92/93 Administration handbook P.10 as underpinning the programme:

1. **All** students can learn - provided it is accepted they need to learn at their own rate and level as much as possible.
2. Students become more motivated when they have a choice of what, when, where and to some extent how they will learn.
3. Nearly all students need to be taught how to plan their learning.
4. Students learn best in mixed ability, mixed age settings when following individual learning programmes.
5. Students may well learn better from one another than from a teacher.
6. Students need to be responsible for their own learning, with teachers and parents the advisors and supporters of student learning.
7. Students need to be taught inter-personal relationships.

At the commencement of the programme teachers appeared to adhere to these ideals. They allowed students the freedom to work in any of the Achieve rooms and the library at any time in which a teacher was available in the room. Students were given menus from which to select their units of work, shown the rudiments of daily planning and given responsibility to plan their week. However, within the first month teachers began to exert greater control as revealed by the earlier excerpt from an assembly.

CONTRADICTIONS IN PRACTICE

The field notes revealed numerous concerns about the programme:

- * timing of unit completion;
- * confusion over teacher expectations of students;
- * insufficient teaching resources;
- * dilemma of offering tutorials while closing the room to other students;
- * students' inadequate planning skills;
- * student work behaviour;
- * monitoring individual work;
- * dilemmas between individual teaching and independent work;
- * teacher and student development on assessment.

(FN 0001-3048 Feb-May 1992)

Major concerns of the researcher included:

- * student dependency on teachers for guidelines;
- * teachers signing pies (students' planning records) without detailed checking;

- * inadequate student understanding from reading units;
- * units offered at only the 'average' level, not individualised;
- * need to deliberately teach research skills.

Perception of such problems required verification from both students and teachers. The first interview schedule was thus devised. **Details of interview schedules and responses are recorded in Appendix B**; only questions and responses pertinent to the discussion are considered in each section.

1C EXPLORATION OF POSSIBLE PROBLEMS

TEACHERS

Key teacher interview questions at the end of the first cycle were posed to verify observations and hunches of the researcher. Baseline data indicators of teachers' reflection was also sought. The researcher was mindful that posing of interview questions would inevitably stimulate reflection-on-action for the interviewees (Walker, 1986). Pertinent interview questions, with their rationale were as follows:

- * What is the main philosophy behind Achieve?
(This question was asked to determine the degree of teacher understanding and explicate why they seemed to exhort different values in Achieve.)
- * Why did the school decide to adopt the programme?
(It was hoped to explore the potential improvements that Achieve was thought to bring to student learning and school organisation, and allow some comparison with the previous school system).
- * What aspects do you find challenging, frustrating and rewarding?
(Such a question may reveal values, dilemmas, and dissatisfactions and stimulate teacher reflection.)
- * What training or professional development have you had for Achieve?
(This question was probing how prepared the teachers were for a different way of teaching and learning. Would this preparation affect the degree of programme implementation?)
- * How does your teaching style differ this year?
(Were teachers reflecting on their understandings and practices?)
- * How are students monitored?
(Were teachers changing their practices to adjust to individualised learning?)
- * What have been the major benefits for the students?

NB. The details of teacher and student responses are recorded in Appendix B. Only summaries of the key points relating to discussion are included here.

| | Teacher A | B | C | D | E | F | G | H |
|----------------------------|--------------------------------|--|-----------------------------------|-------------------------------------|--|--|------------------------------------|----------------------------------|
| Philosophy of Achieve | S freedom & org | S own level & pace | S organise selves; own level | S work own pace & level | S work own pace | S organise selves | Indiv lg S resp for lg | Flexible staffing S lg |
| Why adopt | Unsure | Unsure | Unsure | Cater indiv. | ERO advice | Improve lg | School roll | Unsure |
| Challenge Frustrate Reward | Unit wg S monitor Helper | Unit wg S monitor Work standards | S monitor No gp work 1:1 tg | Flexibility Maths Helping 1:1 | Unit wg S planning Less conflict | Unit wg Preparing 1:1; Better S rels | Unit wg Not see S S enjoy lg | Monitor Not see S None yet |
| Training | None | None | Mtgs; obs QHS | Obs QHS | None | Obs QHS | Obs QHS | None |
| Style | More 1:1 | More 1:1 | More 1:1 | More 1:1 | More 1:1 | Less talking | Less talk | Resource |
| Monitor | Date & record units | Mark books, tests, unit | Tutor T Instant 1:1 | Tutor T Subject T | Dates & record units | In units; tests; pies | Date units; talk S | In units; tests |
| Benefits | Work own pace | Work own pace | S choice S org. | Choice Friends | Work own pace; choice | S org and own lg | Resp. own lg | S rely on self; not T |

NB: Abbreviations: wg = writing; lg = learning; S = student(s); T = teacher; 1:1 = one-to-one teaching; org. = organisation; resp. = responsibility; indiv = individual; mtgs = meetings; obs = observation.

SUMMARY OF TEACHER RESPONSES

Although only reporting interview responses as one word or brief statements reduces the detail (as in Table 6.1), overall trends are more readily detected. Teachers' understanding of the philosophy of the programme indicated limited reflection and discussion on the basis of the programme. This deduction is supported by the uncertainty which prevailed over why the programme had been adopted; foreshadowing restraints in implementation of the innovation (Morrish, 1976). A few teachers reported the ease of catering for a broad range of abilities and catering for individuals with a falling roll. These reasons were cited also in Fleming (1974) where individualised programmes were frequently instigated to respond to falling rolls, rather than purely pedagogical reasons. The teachers who were unsure encountered emerging difficulties with changes in their teaching role. Nevertheless teachers' predominant understandings related to: students working at their own pace and level, and improving students' self-organizational skills. The concept of truly individualised programmes appeared not to be present at this early stage of the innovation.

When asked about challenges, frustrations and rewards in the new system, teachers mainly concentrated on management issues, such as not seeing students on a regular basis, adjustments to a primarily written mode of communication, and adaptation to individualised learning rather than teaching a class as a whole. Some pedagogic

issues were considered, such as the challenges associated with unit writing and regretting the loss of group discussions. Improved teacher/student relationships were seen as rewarding; indeed relationships became a dominant theme throughout the interview schedules.

Professional development was perceived to be limited or absent, despite some felt needs in areas such as monitoring of students and construction of more varied units. Nevertheless, teachers cited changes in their practices, such as reduced teacher-talk and more frequent one-to-one teaching.

Monitoring of student progress indicated variable response, with most teachers adhering to old methods of tests and unit marking. Perceived benefits to students showed congruence with their understanding of the philosophy of the programme, namely working at their own pace, choices of with whom to work and where, and developing student responsibility.

SUMMARY

Thus, at the end of cycle one, teachers demonstrated a limited understanding of the Achieve philosophy, a degree of uncertainty as to why the programme had been implemented, general enjoyment of the programme, imprecise student monitoring and a lack of awareness of some basic student learning needs.

How did the teachers' responses relate to the students?

STUDENTS

A summary of the key interview questions and responses is recorded in Table 6.2.

| | Form 2 | Form 3 | Form 4 | Form 5 | Totals |
|------------------------------------|---|---|--|--|---|
| What do you like about Achieve? | Work own pace 2 Choose classes 2 Project work 1 Choose Ts 1 Choose what do 1 | Choose Ts 4 Choose classes 3 Work own pace 3 Everything 1 Go with friends 1 Choose what do 1 | Choose what do 5 Choose classes 3 Work own pace 1 Choose Ts 1 | Choose classes 3 Choose homework 3 Choose Ts 2 Choose what do 1 Avoid disliked subjects 1 Work own pace 1 | Choose: - classes 11 - what do 8 - Ts 7 - own pace 7 - homework 3 Other 3 |
| What do you dislike about Achieve? | Nothing 3 Planning 2 Choose rooms 1 Miss group work 1 Whole class for English 1 | Nothing 2 Harder to get help from Ts 2 Plan book 1 Retraining 1 | Get behind - nobody checks 3 Nothing 2 Confused knowing what to do 2 Planning 1 Ts unavailable 1 | Nothing 5 Science 2 Ts unavailable 2 | Nothing 12 T unavailable 5 Planning 4 Understand work 3 Nobody makes you work 3 Prefer T-directed/group 2 Other 3 |

| Table 6.2 First Student Interview Responses WHS March 1992 | | | | | |
|--|---|--|---|---|---|
| | Form 2 | Form 3 | Form 4 | Form 5 | Totals |
| What do you find easy or hard about it? | Reading 2 Doing own work 1 Choose what do 1 Choose homework 1 Hard: understanding work 2 T not there 1 Rooms without friends 1 Need more help 1 | Units 3 Actual work 1 Maths 1 English 1 Sticking to plans 2 Planning 2 Nothing 1 | Maths 1 Work 1 Working alone 1 When don't know what to do 3 English 1 Science 1 Catching-up 1 Reading; prefer work with others 1 | Maths 1 English 1 Science experiments 2 Planning 1 Work - too much reading 1 | Actual work 4 Choices 4 Maths 3 English 1 Hard: Understanding work 6 Planning & time management 6 Science 3 English 2 Reading volume 3 Other 3 T not there 1 |
| Do you think you are learning better in Achieve? | Yes 4 Unsure 1 No 0 | Yes 3 Unsure 2 No 1 | Yes 3 Unsure 1 No 2 | Yes 4 Unsure 1 No 0 | Yes 14 Unsure 5 No 3 |
| What helps you plan your work? | Balance work 2 Plan advance 2 Classes Ts in 1 Room friends in 2 Talking rooms 1 Depend what due or feel like 1 | Room friends in 3 Balance work 3 Classes Ts in 3 What feel like 2 | Balance work 3 Depend what due 2 Ts I like 1 Library - quiet 1 Bulletin notices 1 Copy from set timetable 1 | Balance work 3 Depends what due 2 Ts I like 2 Where friends work 1 What feel like 1 | Subject balance 11 T availability or preference 8 Friends 6 Due dates 5 Mood 4 Environment preference 2 |

STUDENT IMPRESSIONS OF ACHIEVE

There was generally high satisfaction with the programme, with 95% of interviewed students liking the programme. Reasons for liking the programme varied, although *choice* was the predominant theme. Students also liked working at their own pace, and setting their own homework. Dislikes were not strong, but teacher availability was an issue for some, while the struggle to take responsibility for their own learning was an issue for others. Some concern was expressed about the difficulty students experienced in understanding the work (8/25 comments), closely followed by time management (7/25).

The majority of students thought they were learning better in Achieve. The dominant influence in planning was ensuring subject balance. Other greater influences included: timetable, teacher and friends' availability. In many instances their timetables resembled the 'old' system, except that students designed them, rather than timetables being completely imposed by the school. The influence of the former system and teacher directed classes served to restrict student choice. The concept of choice was becoming a guise rather than a reality. A few issues surfaced: teacher availability, help sought from friends, assistance needed with planning and organising time, and lack of awareness of learning styles. A number of discussion points were

subsequently suggested for the staff.

1D FEEDBACK REPORT AND PROBLEM FORMULATION

A copy of the feedback report given to the staff is located in Appendix B.

REPORT DISCUSSION

The feedback report featured these suggestions: didactic teaching on planning, alternatives for addressing teacher timetabling difficulties, and student conferencing. The report was given to an after-school Achieve staff meeting, a time in which teachers discuss issues related to the programme, or more substantial administrative issues than can be dealt with at the brief morning staff meetings. An excerpt from the field notes verifies the relevance of the issues and the observation that some of the teachers were considering fundamental concepts of Achieve for the first time:

4/5/92 FN 3048

... "The principal summarised the main findings and suggested discussion points. He invited discussion. One teacher reinforced the desire for more group work for Maori students, saying that cooperative ventures were inherent to the culture. Another teacher (V) spoke of her intention to didactically teach basic skills the next term before allowing students to 'go off on their own rate.' R. questioned her as to whether she did such teaching in Achieve time and seemed intrigued that group discussions complied with the philosophy and how students would be notified of such 'tutorials'. They discussed the use of the morning bulletin for such notices. J. later commented on the value of the feedback. V. found it useful for pinpointing where they had been, where they were starting to head towards, and some ideas of where they might go."

Such revelations indicated that action research skills were required by the staff. They needed to realize the value of recording data, collating, analyzing and reflecting on the information. The staff did not appear to record detailed minutes and thus had no means of comparison for later analysis. Although ideas were shared, there seemed to be no summary or consensus decisions made. Perhaps the presentation of data overwhelmed them and maybe at a later staff meeting some decisions would be made. Further researcher reflection was recorded in the field notes:

4/5/92 FN 3049

" While interested in the data, they did not seem surprised at much of the information - maybe it crystallized their thoughts for them. Their reaction validated the observations. It will be interesting to see what they act on and what problem-solving the discussion might prompt. I have not said anything about their apparent need for student social development, need for cooperative learning and group tasks (all cited in their administrative handbook but not implemented); these are aspects I must monitor more closely next term..."

Thus, it seemed that teachers were largely adjusting well to the programme although more support was needed for individual: teaching, questioning, monitoring and

programmes. What issues arose in the next cycle?

CYCLE TWO - TERM TWO (May-August 1992)

2A OBSERVATIONAL PHASE

The researcher continued to visit for a full school day each fortnight. Access was available in all Achieve classrooms, assemblies and meetings. The 'problems' for the researcher to investigate included: student planning, incidence of teacher-student conferencing, student and teacher interactions (for questioning and individualised instruction), offering of group work and tutorials, and students helping one another. What did the field notes reveal?

CHANGES IN ADMINISTRATION AND STUDENT PLANNING

The principal and teachers were concerned about discipline and student work habits. An administrative change ensured that students were attending classes. A school roll check was instigated each period to determine the presence or absence of students. Student absences were given to the tutor teachers to investigate the following day.

One teacher commented on her reflection and actioning of a few ideas from the feedback meeting:

3/7/92 FN 4031

"I've now got students having a teaching period every 10 days or so as a break from Achieve. I am concerned that otherwise they may lose their good group work skills. Some students need a few teacher-directed sessions."

The teacher devised this solution as a means of maintaining contact with students, checking on their progress and providing some variety in the programme.

GROUP WORK

Group work became more prevalent during this second cycle. Although much of it was teacher-directed, a few interesting cooperative learning tasks were observed:

11/6/92 FN 4005

"The teacher returned test papers to the students asking them to check their totals. He then asked them to sit in groups and try to correct their answers..."

T: Who is the coordinator here? Why don't you have one person call out the answers (whoever has them right) and where nobody in the group knows, confer with the other group?

At times several voices were simultaneously audible. The teacher mentioned to me that they had not done much group work this year so he was interested to see them operating in a group.

T: Now, if nobody in the group can work out the answer jot down the question and when you have got through the whole test then you will work with the other group. If all of you together can't get it, then I'll help you out...

In most instances one student had it right and a glance at the neighbour's

work seemed to clarify the answer for students (although the observer wondered if they would be able to do another similar question). Occasional student comments supported this hunch:

G1: How did you do that?

G2: I don't know, I just guessed!"...

T: Okay. I'll show you what teachers do after they mark exams. Write down these marks (I won't tell you who got them), just the marks..... and taught them how to calculate the range, median, mode and mean.... "

Although this excerpt is not a pure example of cooperative learning according to Johnson and Johnson (1975), it does demonstrate a teacher's willingness to experiment with group work. The students were obviously not used to extensive group work for the teacher had to remind them of the need for a coordinator and encourage them to form groups. The students needed assistance with listening skills, for they often spoke simultaneously, not waiting until the other person had finished. They also needed to be taught how to explain examples to other students, rather than just giving them the answers.

Another teacher experimented with group work but this was very much under her control and direction. She led the discussion with key questions and students responded more to her than other students. In actual fact she spoke most of the lesson. Self-reflection and monitoring on the teacher's part may have led to altered practice. The students did not interact with one another to any extent. They were nevertheless, exposed to different views and ideas from their own solitary interaction with the written unit.

RETENTION OF FORMER PRACTICES

Other teachers continued with their former teaching techniques. Although in this next example, the teacher is roving around individual students and the students have more individual practical experience than in the previous system, all of the students are doing the same unit concurrently and the equipment is organised for them.

11/6/92 FN 4013

"Nine students are present, with students clustered in four groupings. William gathers equipment to set up an experiment. He then goes to the teacher who follows him to his experiment.

W: I've got A. What does B mean?

T: Do it first with bulb A and then with bulb B.

At another group a girl 'helps her friend' by lending her book from which the friend copies. The teacher is roving and students quietly ask his help.

S: Mr T, what's meant here by electrons?

The teacher reads part of the paragraph with him and elaborates on some of the terms... Two girls quietly talk together doing their experiment (trying different positions of switches in the circuit). They write up their experiment... A boy goes to the teacher to ask a question.

T: If you're not sure ask William. He'll help you...

B: Hey William, where's the resistor? (He wanders over to help)

B: On this resistor, which is negative and which is positive?

T: Doesn't matter. He then wanders over to the bench and helps guide another group in setting up the experiment (how to connect sections together, in what order and interpreting what the text says)..."

Individualised attention was given to students according to individual questions asked of the teacher. In all other respects the programme was not individualised as all students were undertaking the same science unit at the same time.

One major difference that occurred during this cycle was that students had more confidence to ask the teacher questions when they were unsure. They were familiar with the routine as to where to obtain equipment and the expectation to conduct experiments on their own. Students showed increasing confidence with the equipment. However, students helping each other (apart from supplying answers) was a rare occurrence, unless prompted by teacher encouragement. This lesson therefore, suggested a transition phase from teacher-directed sessions to individualised learning. The students were conducting experiments without direct teacher instruction and supervision, but they were all doing the same unit simultaneously and all of the equipment was organised for them. Students however, had control of seeking additional information from the teacher.

CLASSROOM ACTIVITY

Increased teacher roving was observed during this second cycle, along with greater student and teacher questioning, and information exchange. All teachers had thus modified their behaviour in this regard. Individual learning and monitoring was also witnessed, albeit in isolated incidents. A time-event sampling demonstrates the brief interaction teachers frequently had with students, the time students spent on task, the extent to which they interacted with students around them and the variety of tasks they undertook during a period.

The time event sampling (as recorded in Table 6.3a on page 123), occurred in the first period of the day and thus contained greater percentages of time on task (O, T, R, W, w) than time off-task (p, d, t). Period one contained higher rates of on-task behaviour, with off-task behaviour increasing each period with period 3 (just prior to lunch) and period 5 (last period in the day) being the highest. Not surprisingly, the highest achievers had longer concentration spans than others, and there also seemed to be a connection with motivation - an aspect which is discussed at length in the chapter on *Emergent Themes*. Teacher-student interaction was minor in terms of time, compared with the time students spent on-task and reading. Students F and D, spent much of their off-task time in social talk.

Social talk topics in the Time Event Sampling recorded in Table 6.3a included: duck shooting, second-hand shop products, playing with compasses, cracking knuckles and playing with pens. Work-related talk often pertained to how much they had done, answers to particular questions, where they were up to and the unit on which they were working; low-level collaboration. Much of the teacher interaction related to students asking questions and wanting help with an experiment.

| Table 6.3a Time Event Sampling 23/7/1992 | |
|--|--|
| Student | Time Events Observed at 30 second intervals |
| C | <i>RwaTT000000d00000000T0T000TTTRRRRwwRRRtttWRRRT0000ww0p000T00W</i> |
| N | <i>wwRlwwddRww000dd0000wttRtRtRlRwRlwRRRtttTRttW000dww0pd00TORW</i> |
| F | <i>WRtwtWRRRwwttWttwRWRIlwWRtwtWRRRwwttWttwRWRIlwdliddipwRdlldRW</i> |
| D | <i>ata00R0RwlttRttwwdlttwtpdpptppppRRTWWWtdttttpdattTTT00000</i> |
| B | <i>twwllldwtdd000000T0Tt0000TTTRRlRRRRRRWRRRtWRRRRWWWwllRRlRRR</i> |

"23/7/92 FN 5003

Key: *R* = reading

l = listening

O = on task

t = talking

w = work related talk

W = writing

d = daydreaming

p = playing with equipment

a = away from desk

T = teacher assistance

| Table 6.3b Analysis of Time Event Sampling | | | | | | | | | | | | |
|--|----|----|----|----|----|----|----|----|----|---|-----------------------------------|--------------------------------|
| | O | T | R | W | w | p | d | t | l | a | % time on-task (O+T+R+W +w) | % time off-task (p+d+t+l+a) |
| C | 28 | 9 | 11 | 2 | 5 | 1 | 1 | 3 | 0 | 0 | 90% | 10% |
| N | 14 | 2 | 12 | 2 | 11 | 1 | 6 | 8 | 5 | 0 | 67% | 33% |
| F | 0 | 0 | 14 | 9 | 11 | 1 | 6 | 15 | 5 | 0 | 56% | 44% |
| D | 8 | 5 | 5 | 3 | 5 | 7 | 4 | 17 | 3 | 4 | 43% | 57% |
| B | 12 | 5 | 20 | 6 | 3 | 0 | 4 | 4 | 7 | 0 | 75% | 25% |
| Tot | 62 | 21 | 62 | 22 | 35 | 10 | 21 | 47 | 20 | 4 | 66% (gp total) | 34% (gp total) |

SUMMARY

In summary, observations in the second cycle confirmed that teachers had acted upon several discussion points which had arisen during the first feedback session. All teachers demonstrated a higher frequency of roving the classroom, asking and answering more questions of individual students, and there was an increased response of an instructional rather than supervisory nature. Deliberately initiated group work was trialled by at least two teachers. However, only superficial attempts at increased monitoring were observed. What was the deeper meaning of these observations?

2B REFLECTIONS

TEACHER REFLECTION

During this time teachers occasionally initiated comments to the researcher which

indicated some reflection on their own practice and that of the students. The principal approached the researcher and asked her advice on questions for a student survey. She suggested a few questions, based on her observations and general trend of responses from the previous student interviews. The principal incorporated these ideas into the survey and the teachers subsequently administered and analyzed the results. The patterns were in accord with the interview responses, but the interesting factor here was that teachers thought to seek views from the students, conduct and analyze a survey themselves; something they had not done before. The seeking of information indicated a willingness to collect systematic data, beyond informal impressions of student views.

RESEARCHER REFLECTION

Throughout the second cycle the researcher recorded numerous reflective comments of her own at the end of observational periods. A few excerpts from the field notes portray growing trends:

11/6/92 FN 4001

"Two teachers seem to continue the traditional secondary school role of writing and marking at their desk, rather than much individual teaching around the classroom...."

3/7/92 FN 4042

"Students here do not help one another with their work (in fact, they are discouraged from doing so). Independence and individual work habits seem to be the culture. Teachers seem to fear students copying if or when they help each other. Communication between students is therefore restricted to passing equipment to one another."

3/7/92 FN 4044

"Is there a more effective role for the 'liaison teacher'? Perhaps s/he could assist with individual conferencing or release teachers for unit writing."

6/8/92 FN 5026

"There seems to be a need for more information on one-to-one monitoring, self-monitoring, pupil conferencing and 'dialogue', and student time-management skills."

Concerns about inadequate monitoring, students seemingly inefficient work habits, students' preference for working alone or in groups, and what helped and hindered student learning led to the devising of both student and teacher interview questions. Teachers still appeared confused and uncertain about the basic philosophy of Achieve.

2C EXPLORATION OF POSSIBLE PROBLEMS

Continuity was deemed desirable to detect developing trends so that several questions formed the basis of each interview schedule. Special questions were asked at each interview however, to deal with specific issues arising at that time.

TEACHERS

Special key teacher questions included:

- * What changes have you noticed in students' working behaviour?
(The transition from teacher-dependent to independent learning was being probed here. Implied also was the teacher's influence in this change).
- * What are the main values and limitations of Achieve?
(The teacher's understanding of the philosophy of Achieve was probed here, since the word 'philosophy' seemed to confuse them at the previous interview).
- * What parent contact or feedback have you had?
(As the Achieve programme is based on a triangle involving student, teacher and parent in learning, it was important to ascertain the level of parent involvement in the programme).

SUMMARY OF RESULTS (Refer to Table 6.4 on page 126)

Student enjoyment of learning and improved student-teacher relationships was a source of great satisfaction. An unexpected but highly valued positive outcome of Achieve for teachers was the increased professional sharing amongst teachers and discussions concerning 'learning and teaching'. Most teachers believed that the majority of students were working as well or better in Achieve than in the 'old system'. A small percentage of students were working less well - a worry to teachers. Like the students, some teachers expressed concern over the contradiction between allowing students to set their own pace of learning and setting deadlines to ensure students worked through the syllabus.

According to most teachers the main value of Achieve for the students was developing independence and responsibility for their own learning and life. Teachers cited a greater variety of values; and more of which were related to learning and responsibility than they did in the first round of interviews. The main limitations related to: less daily contact with some students, some students drifting and difficulties with group work or demonstrations.

Limited parent contact was reported. Although the plan books were a vehicle for teacher and parent communication, (which was used periodically by some parents and teachers), teachers expressed disappointment with the apparent lack of interest.

Results indicated that the workload involved in Achieve was of diminishing concern. A common concern was not addressing needs of the slower learners. A few teachers wondered about the suitability of written units for students with reading difficulties. Minimal change in monitoring had occurred, for few teachers had modified their assessment practices to match that of an individualised learning programme.

The Achieve programme necessitated a complete *change of role* and teaching styles for the teachers. They had to relinquish their teacher-focused *control* to become more student oriented. No longer were teachers to be the sole purveyors of the curriculum, students were to be given the power and responsibility of determining their own

learning. This change in focus required not only the development of student skills, but considerable flexibility, professional development, de-skilling and re-skilling of teachers. From being directors of whole classes, teachers had to adapt to an individual student focus, and endeavour to promote independent student learning skills.

| Teacher | A | B | C | D | E | F | G | H |
|----------------------------|---|---|--|--|---|--|--|---|
| Changes noticed in S beh. | S prefer work alone; working harder; lg more | S more settled; most work same; unsure if lg more | Few changes; 60% work harder; 20% less; improved indep & org | Fewer conflicts; improved org of some S; unsure if lg more | Improved coop amongst staff; better S/T rels; better S work harder | Better S/T rels; S in same gps; many work less | More resp for own lg; S doing more work; think lg more | Better S/T rels; some S more work |
| Achieve main value & limit | Dev. indiv resp for lg & life; less daily S contact | Work own pace; no limitations | S control lg & effort some S drift | Work own pace; help S when need it; few gp tasks | S see T differently S control lg; S diff stages - hard for demo & gp. | Work own pace; units don't suit S with rg problems | Helps research skills; less discussion | Work own pace; get ahead; hard for slow S |
| Parent contact | Lots via plan book | Minimal | Not much | Reports; plan book | Plan book; not enough | Casual; a little | Not enough plan books | A few - social |

Abbreviations: dev. = developing; resp = responsibility; lg = learning; S = student(s); T = teacher; gp = group; demo = demonstration; org = organisation; rel = relationships; beh = behaviour

Flexibility was required, rather than the former skills of being fully prepared before each lesson. Teachers had to be open to eventualities and tangents, as opposed to working from what they had prepared. Who they would have in their classes each period and each day was unpredictable - again a contrast from former predictable times. Different monitoring and evaluation skills, were required; proficiencies that teachers felt they did not possess, as illustrated in a teacher interview extract.

6/8/92 "You can't always explain at the time you want to. You can see that kids have written something down and have not understood it. Just a word to them, a word of explanation would have straightened it out, you know. So that you can't do it and maybe, you don't ever do it because you either forget or the kid does not come to you."

Collecting work and checking on students became problematic; the source of considerable anguish and debate amongst teachers. They were not used to problem-solving or devising innovative systems for previously well-established routines. Teachers were confronted with questioning their traditional ways of teaching. This problem required new thought and discussion processes - the subject of the chapter on *Emergent Themes*.

Not only was the teaching approach different, but also the content. Teachers were expected to design units of work in written and graphic form, rather than the oral presentation with which they were familiar. This presentation was new and challenging but also compelled them to value the variety of non-verbal skills they had refined during years of teaching and were now having to surrender. A teacher interview extract illustrates this predicament:

6/8/92 "I think that the lovely flexibility in Social Studies, is much more limited, because you just don't see them. .. You just can't have discussions. It is so difficult to stop everybody and call them all together because they ask us to give them a couple of days notice. Unfortunately with Social Studies it's only three times a week anyway, and if you happen to miss the magic moment, then it's gone."

This dilemma between deeply valuing discussions and having to adapt to individual units was to become a source of constant struggle throughout the study. The transition from a teacher to a facilitator of learning was fraught with predicaments.

To explain new concepts in written form was also challenging for teachers. Occasionally working with other teachers expanded their repertoire of activities. Many of the teachers commented in interviews on the benefits of this approach in compelling them to think through an entire unit, rather than a daily lesson, and to enhance their own planning skills. Nevertheless, teachers struggled with these new demands and their needs were only to be met 18 months into the programme with special teacher development sessions; despite the known importance of in-service development for successful innovation (Talbert, 1972; Fleming, 1974).

Skills teachers required in Achieve corresponded with those needed for action research, for instance: critical awareness that problems existed, reflective thinking, data collecting, discussion skills, teamwork, time management, personal development and responsibility for their own learning. Teacher development for action research in Achieve frequently mirrored student skill development for individualised learning.

STUDENTS

In order to detect changing trends students were asked a few standard questions each interview period. However, as with the teachers, several new questions were asked each time according to arising trends and issues. The questions asked and responses given are recorded in Table 6.5 (on page 128).

STUDENT IMPRESSIONS OF ACHIEVE

Student responses varied considerably, depending on the subject area and task. Clearly what students liked was having the **choice** or **option** of working either with others or by themselves. Students usually preferred to work alone for hard or concentrated work. They preferred to work with others when they needed help. These others were consistent work 'mates' - usually with similar work habits to their own. There was an ethnic difference in response, with Maori students nearly always opting

to work in groups.

| Table 6.5 Selected Questions from Student Interviews - August 1992 | |
|---|--|
| <p><i>Do you prefer to work by yourself or with others? Why?</i></p> <p>8 Self 10 Others 6 Varies</p> | <p><i>When you plan your work, what helps you decide what to do?</i></p> <p>9 Subject I am behind in 9 Same as friends 9 Own set weekly pattern 6 Check subject balance 4 Rooms certain teachers in 4 What feel like 2 Writing plans 1 Teacher directed sessions</p> |
| <p><i>What do other students do to make it hard for you to get your work done?</i></p> <p>22 Talking 3 Nothing 1 Run around 1 Fight</p> | <p><i>What do other students do to make it easy to work?</i></p> <p>6 Quiet 6 Nothing 5 Help you/explain things 2 Move away 2 Do their own work</p> |
| <p><i>How often do your parents sign your plan book?</i></p> <p>19 Every night 3 Not often 1 Don't like signing it</p> | <p><i>What sorts of things do they say about it and your work?</i></p> <p>15 Nothing 4 Good things 3 All right 3 Check I do homework 3 Think I am not doing enough 1 Ask about bad comments</p> |
| <p><i>How well are you doing at school this year?</i></p> <p>16 Better 5 Same 2 Worse</p> <p>How students know:</p> <p>14 Grades/reports 4 Teacher comments 1 Parents 1 Amount of work done</p> | <p><i>What do you think of the units/work you do?</i></p> <p>18 Good/all right 13 Rather hard 10 Would like more variety in them 7 Easy to follow 7 Interesting/varied 1 Right level 1 Too much to do</p> |
| <p><i>What things do teachers say/do that help you most with your work?</i></p> <p>12 Explain things 7 Check you know what to do/offer to help 6 Wander around to help you 3 Quick answer to simple question 2 Encourage me - tell me I can do it 1 Let me do it in own pace and time</p> | <p>* NB A few students mentioned several factors.</p> |

Student responses indicated that they still liked the flexibility, independence, choice of rooms and teachers in Achieve. Their immediate needs and concerns appeared to be met, for few dislikes were stated. A few students cited confusion over the apparent contradiction between being allowed to work at their own pace and teachers setting deadlines. Friends were influential for deciding in which rooms to work and what subjects to choose for particular periods, although lateness with unit assignments and ensuring a subject balance were more critical factors in planning student work. Student perception indicated minimal parent interest and interaction with their school work. The majority of students believed they were progressing better in Achieve than in the previous system. Only one student reflected on the amount of work she had accomplished.

Students appreciated informal help and ready access to teachers who 'wandered' the classroom. The student culture was also changing, so that seeking teacher help was more acceptable. The majority of students thought the units of work were interesting and easy to follow, although they requested greater variety.

DESIRED CHANGES

Students implied areas in need of improvement: clearer explanations and variety of units, providing a choice of individualised and cooperative units of work, and clarification of the ideal of 'working at your own pace'.

How did teachers reflect on and discuss the student and teacher feedback from the second action research cycle?

2D FEEDBACK REPORT AND PROBLEM FORMULATION

REPORT CONTENT AND DISCUSSION

Teachers found the second feedback report of considerable interest, particularly student comments regarding parent interaction with their school work. The teachers were keen to learn more of the parents' views and were supportive of the researcher conducting a parent survey. They suggested asking parents similar questions to that of the student interview and were enthusiastic about participating in modifying the researcher's draft of such questions. The following discussion points were deliberated:

- * dealing with slower learners;
- * requiring more guidance in student time management and planning;
- * developing student assessment, student conferencing and writing of units;
- * revising units;
- * dealing with the contradiction of students working at their own pace, yet teachers imposing deadlines

At this stage teachers did not seem to realize the significance of individual assessment for designing more individualised programmes for Achieve, nor did they fully appreciate the dialectical relationship between cooperative learning and individualised learning. These are issues which were to develop into Emergent Themes.

Which issues did teachers incorporate into their understanding and improvement of practice?

CYCLE THREE - TERM THREE (September-November 1992)

3A OBSERVATIONAL PHASE

SEEKING PARENT KNOWLEDGE AND INVOLVEMENT

Teachers became very interested in parents' views of Achieve; suggesting questions for a parent survey. The researcher drafted a survey containing the teachers' suggestions and questions which could be triangulated with that of the student and teacher interviews. A draft copy was sent to the teachers, whose suggestions were

incorporated, and the surveys subsequently distributed. (The actual procedure was described in the Methodology in Action chapter). Discussion of the results occurred at the third feedback meeting (refer to the end of cycle three).

STUDENT MONITORING

Student monitoring became more noticeable during the third cycle, both in action and in conversation. At each Achieve after-school meeting the teachers now discussed student progress. As most teachers taught every pupil, the staff meeting forum allowed for quick comments to verify or refute what the tutor and subject teachers had written on tutor folders. A checklist was circulated during the week prior to discussion, on which teachers ticked a continuum indicating student: work habits, effort, conduct and progress. A column on the page allowed for additional comment where necessary. The tutor teacher would then briefly summarise the trends to the meeting and other teachers could elaborate on concerns or progress. These 'profile meetings' were also the occasion for teachers to share successful strategies or advice on ways of handling a particular student or parental intervention.

Observational notes recorded individual monitoring and some conferencing in action in the classroom:

12/10/92 FN 6026

"...T: Okay, let's have a look and mark your test. The teacher uses a ruler and protractor to measure an exercise (ie. going through the process to derive a different answer from the student).

T: You try it - do you know what you did here? You wrote 110.3 rather than 110 + 3. Do you see what you did wrong?

S: Yes

T: Now... how do you change grams into kilograms?

S: Change the decimal point.

T: Which is smaller - grams or kilograms?... Okay, you get the point... All right, let's look at this one (measuring it). You must line it up with the zero. Is that where you went wrong?

S: Yes, I didn't know which line to start on... I got mixed up here.

T: Okay, now that you have the formula and the idea, I want you to do a few of those exercises while you remember and I'll mark them for you..."

This teacher spent considerable individual time with each student, questioning them so that he was able to judge exactly where they misunderstood a concept. Such practice is consistent with recent literature in evaluation, for instance, Wiggins (1992), who advocates student-teacher dialogues in authentic assessment. When the teacher is able to discuss with the student the reasoning as well as the answers, particularly immediately after the learning activity, substantial gains in understanding are achieved. Pertinent teaching subsequently occurred and the student was given additional practice to reinforce the concept.

This same teacher monitored student planning and general progress during tutor time. The teacher was interested to read other teachers' comments on the students' work

and to view their distribution of subjects. His interest encouraged students to achieve 'good comments' to show him and to ensure they kept a reasonable balance in their subjects, that is, not spending too much time on their favourite subject. Such monitoring was not time-consuming, but provided the teacher with a quick overview as to the students' progress. The students felt he was interested in their overall development, which improved their motivation.

Although limited monitoring was observed in two other teachers' tutor periods and one other subject teachers' class, it was not seen to be an integral component of the Achieve programme. At times, teachers endeavoured to monitor students as they wandered around individuals but often overlooked students who appeared to be working:

12/10/92 FN 6032

"The teacher circulates, checking that students are writing their speeches...

T: Okay Ruth?

R: Yeah.

The teacher peers over her shoulder to have a look. He then checks another student.

T: Right, David - you're doing your speech. What aspect are you doing?...

T: How is it going girls? Any questions?....

He circulates another group. One girl has not done any work. She does have a book open, but is not reading it. It is a good protection from the teacher - no intervention this period, as from a distance she may appear to be working. Instead, she is doodling on a piece of paper... A few other students have also been completely missed this period. At a glance they may appear to be working (books out) but minimal work has been achieved, with constant chatter. 5/25 students have their heads down writing or reading. Others are engaged in social chat, playing with felt pens, pieces of paper, doodling on plan books, recreational reading, talking..."

Although teachers endeavoured to circulate the class, they also responded to student questions and requests. At times this distracted the teachers who then neglected the quieter students. Keeping frequent tabs on students who were renown for disruptive behaviour or who interrupted others, meant that teacher's quick glance around the room often misinterpreted the quiet behaviour of students' as work behaviour. The teachers rarely took time to stand back and observe the class as a whole. Whereas some teachers were systematic at the beginning and end of a period in inspecting students' planning and subsequent accomplished work, few teachers were consistent throughout the period. Teachers were consequently unable to judge what was a reasonable period of time to expect a completed unit of work from particular students.

CONTRADICTIONS IN PRACTICE

Self-pacing and teacher deadlines continued to cause dilemmas for students and teachers alike.

12/10/92 FN 6023

"One teacher spoke to me saying F5 has caused him a dilemma. He had

advised some students that they needed two years to complete the syllabus, but because parents paid the examination fees, he felt obliged to ensure that the students had completed the course. He knows it goes against the Achieve philosophy, but as they are slow learners for whom reading is a difficulty, he is speeding up the last few units by teacher-directed sessions - he can explain something in 10 minutes, which would take them a whole period to read..."

The demands of the syllabus and external examinations were the catalyst for some teachers usurping control of the pace of learning. Other teachers thought students needed external motivation to complete units:

2/11/92 FN 7023

"J. spoke with me saying that her students did a unit together recently, which was fun... She said she did not usually impose deadlines but that she did for this unit (judged on when the first few finished it and half the class, and then set a date). J. thought it was good for them to have to work to a deadline occasionally and see how they compared with the others in the class."

Teachers struggled with the concept of choice over students' own pace of learning. A few teachers argued that students needed to work to deadlines 'in the real world of work', while others believed it was a fundamental tenet of the Achieve philosophy and one which caused them considerable disquiet as they sought to complete the syllabus. Their concept of a responsible teacher was to complete course requirements in the school year, particularly for examination students. This trend became a real dilemma for them and the students, and became a major emergent theme.

TEACHER CONTROL

Discipline became a related underlying problem as teachers sought increased work outputs from certain students.

12/10/92 FN 6038

"... Settle down please. There's far too many people talking and not working. Everyone has plenty of work to do... Okay, how many units have you done this term? You need to work a little harder on this one - only four weeks left... Now you get working please. You should be getting more done in a period than that. Put the felt pens away and borrow the coloured pencils in the box... I am not very pleased with you today - you haven't done very much (across the room)... I had better see some good work in the next fifteen minutes or else it will be retraining..."

At the beginning of the year teachers were uncertain as to whether or not to reprimand students not working, for fear of contravening the spirit of Achieve. Later in the year as teachers became more certain of their role and more familiar with the system, and as some student work habits began to deteriorate, teachers were observed to more frequently admonish students. They felt they had greater control in demanding work from students as the students chose to enter their classroom. Students were rarely seen to protest against such admonition, for they tended to avoid

as much as possible teachers whom they did not like. Teachers spoke frequently of the improved student-teacher relationships and generally the atmosphere in the classrooms was relaxed in this dimension. Students who did not like particular teacher's work expectations tended to select more social rooms instead. Although brief extracts may not portray the difference in classroom culture, interviewed students were readily able to cite in which rooms they chose to work, and in which rooms more socialising was tolerated.

As mentioned in cycle two, set classes was one approach used by teachers to ensure that students kept up with work expectations. These 'teacher-directed' sessions facilitated teachers' monitoring of students, but served a few other purposes, such as ensuring students completed the syllabus demands, and allowed teachers to organise group discussions or varied activities. The following extract illustrates the phenomenon:

12/10/92 FN 6036

"Teacher: It is a set period today for your unit work. I need to check where you are all up to. We have 8 weeks this term. Half of them have gone so you need to have a unit ready now. You work at different rates - some people will be on their second unit by now. It's just an average time to let you know you should have completed one unit by now and need to get three done this term. Right, to work please and I'll check where people are up to.

T: Now, John, you're on to your 7th unit. You've got a few more to do yet. So only spend a bit more time on this one and then start another. Don't worry - just do the best you can and then get onto the next one...

T: Now, Ruth, how are you going?

She checks how many units she has completed and suggests that she does a couple of short units next.

T: Very good. You've only got one more you have to do. That doesn't mean you can't do any more! Just that you've done what you had to - great!"

Set classes grew in popularity at this latter part of the year, particularly in senior classes. It caused considerable disquiet for the principal and several teachers. One person commented to the researcher:

12/10/92 FN 6044

"We have some contradiction between the philosophy and practice of Achieve. About 30% of the staff cannot see that teacher-directed classes are taking away 'control of learning' from the students - the antipathy of Achieve."

Were this teacher's reflections isolated or were they in tune with the general trend at this time?

3B REFLECTION

REFLECTIONS OF THE RESEARCHER

A few excerpts from the field notes reveal researcher's concerns about the programme:

12/10/92 FN 6036

"My general impression is that work habits of some students have deteriorated. Conscientious students, middle to higher achievers seem to be working harder, possibly due to the reinforcement of unit completion. Achievement is encouraging to them working harder eg. RW. At the other extreme, people like CM who have trouble reading and consequently are struggling, tend to be spending very little time on task. The need for differentiated units is paramount."

2/11/92 FN 7040

"It seems to me that teachers need skills in helping students how to learn. They also need further development of student questioning skills, helping students develop responsibility for their own learning, exposing students to a variety of learning strategies and how to use them. Further computing skills would also be advantageous, especially word processing."

During this third cycle teachers became increasingly interested in further information about the Achieve programme, and thus were supportive of a parent survey. They continued to increase their individual roving and subsequent individualised instruction. Attempts were made to monitor students more closely (with attitudinal checklists and periodic 'form profile' meetings). The contradictory practice of teacher-directed classes grew. Although several teachers were philosophically opposed to the practice, they perceived it as being the only organisational solution to demands to complete syllabus requirements and monitoring of students. The call for cooperative learning units, differentiated ability units and the teaching of requisite skills for independent learning was not heeded.

3C EXPLORATION OF POSSIBLE PROBLEMS

In an attempt to monitor trends over the year, interview questions were very similar to those asked previously. The trends in the third cycle were comparable to that of the preceding cycle. (NB: Details are recorded in Appendix D.)

TEACHERS

Questions that were peculiar to this cycle included:

- * On what skills would you like further development?
- * What aspects of Achieve have been discussed in recent meetings? Have there been any changes?
- * What would you like to know about the students?

These questions were designed in order to ascertain modifications in teachers' reflective skills, their understanding and their practices. In asking what they wished to know about the students, it was thought that an indication of their readiness for adopting a first-order action research may be gained. Because teachers received minimal teacher development prior to the implementation of Achieve, they might be interested in developing skills.

Table 6.6 Skills sought in Teacher Development

- * Questioning skills - for teacher and student
- * Raising students' expectations/motivation
- * Developing more varied units
- * Helping students plan work and set deadlines
- * Computing skills - word processing
- * Evaluating students
- * Developing student's research skills
- * Setting work at different levels
- * Helping students how to learn

The major issue for teachers was helping students with their own learning skills, such as questioning skills, motivation, variety, planning, time management, and research. The previous feedback report served as a catalyst for continuing staff reflection and discussion (as detailed in Table 6.7). It remains to be seen in the fourth cycle as to whether or not teachers actually actioned their increased understanding of the programme.

Table 6.7 Topics of Teacher Discussion and Recognisable Change

Topics of discussion: philosophy, planning, providing more variety in the programme, tighter monitoring of students, student motivation and work habits, deadlines, evaluation of form levels, reorganisation of meetings, and detailed discussion of the previous feedback report.

Reported changes: increased space in the new plan book for students to record planning details, some modification of units, offering seminars and more individual units for slow learners, more group work, and teaching study skills.

To assist them in their modification of practice, and determine some degree of readiness for action research, the teachers were asked what they would like to know about the students. This question also provided them with an opportunity for input into designing the student interview questions.

Table 6.8 Teacher Questions about Student Activity

- * What do students like or dislike about the units of work?
- * What do students think of the volume of reading?
- * How many students plan ahead?
- * How interested are parents in students' work?
- * What do students feel about Achieve and their motivation?
- * How much homework is accomplished?
- * What do students think of assessment?

Teachers' questions revealed a growing disposition towards reflection and questioning of formerly taken-for-granted assumptions and practices. As a result of a staffroom discussion, the researcher was able to provide some reading material for the teachers related to learning styles and Gardner's (1993) seven types of intelligences (13/11/92 FN 7044; 19/11/92 FN 7045).

Teachers seemed open to readings and developing their understanding - a prerequisite

for action. How did teachers' views of the Achieve programme by the end of the third cycle compare with that of the students?

STUDENTS

As with the teacher interviews, a number of questions were constant throughout the three cycles. Trends of these core questions continued as before, with the exception of several changing patterns: students reported some dislike of the volume of reading and writing required in the units, a greater preference for working with other students rather than by themselves (students were beginning to feel isolated in their study - a point on which further elaboration occurs in the subsequent discussion section); and appreciation of improved planning and self-organisational skills.

Questions which sought opinions on emerging issues included:

- * How do you find the teacher-directed sessions compared with those you plan?
- * Do you work as hard as you could in Achieve? What helps or hinders you?

The majority of student respondents preferred to take responsibility for their own learning, while a few liked the variety, and three other students preferred teachers having responsibility for their learning. A few students elaborated on their replies, indicating either boredom in teacher-directed classes or gratitude for teachers 'making them work'. The results indicated variable student capability in taking responsibility for their own learning. A perceptible underlying theme was student desire for varied learning situations; a problem detected by teachers but yet to be addressed.

Students were divided in their opinion as to whether they were working as hard as they could in Achieve. (Yes = 9; Unsure = 4 (varied across subjects); No = 8). Naturally students differed in their concepts of 'working hard' but the high response of students who were either unsure or knew they were not working to capacity raised issues for the teachers. Some students qualified their answers by boredom or laziness being a hindrance (n=4); while others cited incentives for working, such as: setting goals and deadlines, encouragement from teachers or friends, enjoyment of the unit, time of day or extrinsic rewards from home. Motivation was beginning to appear as an emergent theme.

3D FEEDBACK REPORT AND PROBLEM FORMULATION

FIRST PARENT SURVEY RESULTS

Details of the survey questions and results are contained in Appendix H. Of particular interest here is the convergence of parent views with those of the students and teachers. (Perhaps not surprising when their source of information was largely via their child's impressions of the programme). Analogous to the students, the parents who responded to the survey liked the idea of their child making **choices in learning** (98%). However, 58% of respondents wanted to know more about Achieve, although only 33% were prepared to attend a parent meeting explaining the programme. Of greater interest to parents was the seeking of more detailed information on their own **child's progress** (80% of respondents). The majority of

respondents (83 %) found the **plan book useful** to sign each night, despite only 63 % finding it a useful vehicle for providing feedback about their child's progress at school.

Their **child's enjoyment in Achieve** was perceived by 73 % of respondents; agreeing that their child was learning better in Achieve than in the ordinary school programme. Much of the progress was attributed to students being able to **work at their own pace, having choice** and flexibility in their learning, and students' **developing organisational skills**. However, parents' concerns about the infrequent and general nature of teacher comments in the plan books, insufficient help for slow learners, students avoiding subjects or subject teachers and work responsibilities, recorded the greatest frequencies of concern about the programme.

TEACHER RESPONSE TO PARENT SURVEY

Providing a summary of the parent survey results at the feedback report meeting was of great interest to teachers. The open-ended responses of the parent survey sought greater feedback on their child's progress at school and more information on the Achieve programme. The teachers discussed the possibility of each tutor group holding a morning tea for their parents as an encouragement to bring them along to school. On such occasions, parents would be able to view some Achieve periods and the tutor group, in particular, as central to the planning of individual work.

GENERAL REFLECTIONS ON PROGRESS AND CONCERNS FROM 1992

CONTENT OF FEEDBACK DISCUSSION

Suggested discussion points and possible goals for 1993 stated in the third feedback report were considered by the teachers (as recorded in Table 6.9).

| Table 6.9 Discussion Points Considered by Teachers in Third Feedback Report |
|--|
| <ul style="list-style-type: none"> * Increased frequency and detail of reporting to parents * Further explanation and demonstration of Achieve for parents * Modification of units: <ul style="list-style-type: none"> a) Multi-level b) Variety of medium c) Greater use of group tasks/cooperative learning d) Slightly increased choice of topics e) Review of unit directions with 1992 students * Teaching of student learning strategies: <ul style="list-style-type: none"> a) time management/setting realistic deadlines b) experimenting with different learning styles c) study habits - efficiency;variety d) self-motivation - raising expectations e) questioning skills * Teacher Development <ul style="list-style-type: none"> a) questioning skills - own and developing students b) practical monitoring of students c) conferencing skills (learning strategies) * Periodic review of goals/philosophy of Achieve * Possible consideration of a social skills programme |

RESEARCHER REFLECTION ON UNDERLYING THEMES

Parent concerns and students' deteriorating work habits related to the fact that few teachers reviewed or modified formerly constructed units, nor did most teachers design new units to address differentiated learning needs of students with varying academic ability. Limited time and resources however, were only part of the explanation for having programmes targeted at only the 'average' learner. There was a discrepancy between practice and espoused *beliefs about individualized and cooperative learning*. For them, cooperative learning meant students working alongside each other without unnecessary disagreements or confrontation. Working together towards the same goal (Johnson and Johnson, 1975) was rarely considered. Individual work meant, in actuality, doing it by oneself, without interference from other students and with minor teacher assistance.

Defining '*working at your own pace*' was problematic for teachers. Determining appropriate amounts of work from students was virtually impossible, particularly at the outset of the programme for teachers had no guidelines on which to base their expectations. Teachers had only syllabus requirements from which to judge, and it became evident that students alone worked too slowly to accomplish desired specifications. The dilemma between students learning thoroughly while omitting vital sections of the syllabus, or learning more superficially and covering compulsory sections was partially resolved by teachers implementing directed classes. Subsequent decisions occasionally caused disquiet and perplexity.

Students were initially impressed with the *choice* they were given. For the first time in their school lives, students were allowed to choose when to study particular curriculum areas, in what classroom they preferred to study, with which friends and what teacher. Such choices ensured Achieve's immediate approval from students. Reality gradually subdued this enthusiasm however. Responsibility issues concerned students. Anxiety and uncertainty grew as to their achievements in Achieve. When interviewed (August 1992 - cycle two), the majority of students felt they were achieving at a higher standard than the previous year. However, when asked how they knew that, most students were vague or else cited report grades or casual teacher remarks. Only one student referred to the greater quantity of work she had completed that year (nothing said about the quality).

Monitoring (evaluation) was gradually becoming an issue for teachers. Davies (1978) argues that with individual work students need to know their progress in order to reinforce motivation and confidence in their own learning skills, since they do not have the usual feedback in class.

Students became perplexed not only by the lack of information but also by contradictory messages from teachers. At times students took advantage of it, such as having a social time in classrooms where talk was permissible, and when teachers exhorted students to work harder, students uttered the retort: "*We're allowed to work at our own pace*". At other times students became confused and frustrated.

Student Interview: "Teachers say we can work at our own pace but they set

deadlines for us to hand in work. It doesn't make sense. Then they say we can choose where to work, but they set teacher-directed classes, or close the room, so we can't choose."

Once the novelty of working on written units diminished, students reported boredom with the routine.

SUMMARY

Students wanted greater variety in the programme, more choice of units and choice over whether to work alone or with other students. They wanted to retain control over their own pace of learning (for them, the central tenet of Achieve) and in setting their own timetable. The next cycle portrays developments in these areas.

Central issues for teachers concerned encouraging greater parent interest, informing parents of the programme and involving them in their child's education. Detailed student planning and improving student's work habits were concerns. Teacher in-service was highlighted as a critical need in order for these developments to occur.

CYCLE FOUR - TERM ONE 1993 (February-May)

4A OBSERVATIONAL PHASE

The fourth cycle witnessed increasing teacher attention to student planning, informing of parents, experiments with self-assessment and monitoring, and the arrangement of teacher development. In other words, teachers activated former intentions and discussions. Points raised at previous feedback cycles were finally addressed. However, the issue of student choice was not resolved. Excerpts from the field notes demonstrate these evolving trends.

STUDENT CHOICE/TEACHER CONTROL

Although the beginning of the second year of Achieve was less confusing for students who were, by then, familiar with Achieve's routines and expectations, the very orderly start provided mixed messages to students. Notices at the first tutor period did not augur well for the year. All of their periods that day were fully organised by the teachers. Teachers wanted to see their form students to introduce the course for the year, to explain their expectations and distribute the first units. In this second year of the programme teachers were able to rely on 'experienced' students to teach the new students how to interpret the teacher and room availability timetables in order to fill in the planning booklets.

An interesting innovation was the inclusion of study strategies in the front of the planning booklet. The existence of the notes acknowledged the need for teaching study skills, and was also a means of informing parents of homework and study expectations.

In the explanation of programmes for the 1993 year modified teacher practices were evident:

8/2/93 FN 8012

"The teacher is explaining the year's programme, with a particular focus on a forthcoming camp in four weeks time.

T: The costs are minimal as we are focusing on things that are cheap, such as examining natural hazards, outdoor pursuits, hot pools... The principal has said that money is available, so if it is a struggle for your parents let us know so everyone can go. There will be an assignment. We want it to be practical and get you out there - not just paper all the year, like Achieve last year. .. We'll have a good time. Other assessment procedures include a big research project which is explained on the handout. There are examples on page four eg. converting sheep to beef farms, residents' views on nuclear power... Design your own topics. See me for ideas and contacts. As form 5 you must go beyond books in the library - like JP has to find all her new data at our school - not in books..."

This teacher was consciously trying to incorporate greater variety into his subject with a camp, research project and topics of the students' own choosing. His enthusiasm for the camp was reinforced by his emphasising the availability of additional funding if money was likely to restrict students' attendance. He tried to relate the changed emphasis from books to research to the students' experience of having a researcher in their midst. Nonetheless, this extract was his rhetoric. Did his actions match his discourse?

8/2/93 FN 8015

"...T: There are three topics with one per term. We are starting with natural hazards since our camp is sited at the base of a natural hazard. You get as much out of the course as you put into it... He shows an example of a unit... The teacher then distributes the unit booklets - no choice - all students are given the same unit (topic and level).

S: How long is this unit supposed to take us?

T: Two weeks... You can begin the unit with learning activity one."

The teacher undermined his earlier speech by providing students with no choice on the first topic. Everyone was to do the same topic, at the same level (no allowance was made for the slower learners), and at the same time. There seemed to be no allowance for students working at different rates, for the teacher stipulated the deadline at the outset. Certainly the teacher wanted students to have some background in natural hazards before going on camp, but they had no choice in studying different hazards and thus reduced the opportunity of applying new knowledge or skills to their outdoor experience. The students were not able to pursue their own hazards of interest.

Some of the students had minimal interest in the unit for they did not know what a hazard was. It took some time before the teacher discovered their lack of knowledge. Davis (1993: 267) cites Ausubel (1968) as stating that, "the most important single factor influencing learning is what the learner already knows. Ascertain this and teach accordingly."

Two teachers regularly used pre-tests to determine student knowledge prior to the unit, but this information was rarely used to alter the subsequent unit of work. Davis (1993:267) acknowledges the difficulty in matching students' learning needs:

It is not easy even for experienced teachers to match the widely differing needs and capabilities of individual children with appropriate objectives, methods and materials. In most classes, irrespective of their size, content and pace are geared to the middle level of ability in the class... There should be careful differentiation: what is taught and how it is taught need to be matched to pupil's abilities and aptitudes. It is of the greatest importance to stimulate and challenge all pupils, including the most and least able...

Student lack of interest was partly due to the irrelevance of the topic to their own backgrounds. Student conversations were very rarely task-related; perhaps due to the disjunctive nature of their school and life experiences; and work set at inappropriate levels. Clearly, deeper teacher reflection on discrepancies between current practices and beliefs was needed.

STUDENT MONITORING

In exploring the issue of student choice and programme change, monitoring and self-assessment play a vital role. An extract from another subject lesson on the first day of Achieve for 1993 provides insights into the reality of the programme.

8/2/93 FN 8030

"T: Get organized and relaxed ready to listen because there is a lot of organisation to get you going for the year. I will distribute 1993 unit sheets (indicates the order of units and when they need to be done). He asked selected students to read sections from the sheet (to ensure that the students were aware of what to do). The teacher then provided an indication of time allocation per unit and teacher availability. Mark allocations for each unit were also delineated. Textbooks were distributed. The teacher then asked the students to spread out for a practice test for the unit. He explained the purpose (marks were not recorded), as a way to help students know what to look for in the unit and what they needed to learn. ... After the test the teacher distributed self-assessment sheets.

" Rating myself: (circle the appropriate letter)

The grade I give myself is A B C D E for effort

A B C D E for quality

Things I did well _____

Things I can improve _____

Things I have improved _____

Rating the Module

Interesting? A B C D E (circle)

I learnt: a lot plenty some little (circle)

Good parts: _____

Parts needing improving _____"

This teacher, like the earlier example, stipulated the number and nature of the units, the order in which they needed to be completed, and expected time-frame. Thus, a year after the Achieve programme was implemented student choice did not feature - they had limited responsibility for their own learning. Nevertheless, the teacher had devised an interesting self-assessment sheet. The sheet was designed to promote student reflection on the quality of their own learning and on the units of work. Paradoxically, Baird and Mitchell (1986) advocated the use of self-assessment as essential components in developing student independence in learning. This teacher would not have been open to student views and suggestions a year previously, but was interested to know the difficulties in the unit for future modification. The pre- and post-test concept was a useful means of stimulating student motivation, as well as providing the teacher with an indication of student readiness for the unit. There was an unconscious contradiction in his practice.

Staff meeting discussions reflected the growing commitment to student monitoring:

22/2/93 FN 8054

"V: Student profiles. QHS do it once per month and do everything at one time. My feeling is that we will trial it by placing profiles in the boxes. They will help with writing progress reports. Next term I think we will do it further apart, like each form twice per term.

J: Will we change the sheet? We weren't happy with QHS's last year - such as the options.

V: I prefer the sheet as it is and perhaps we could look at options next time.

I: Comments on options gives us a wider view of the student. I don't mind if we don't - I won't have to do any work! We need space though to do it.

V: Write options in if you want, then we'll know how to set up the revision copy for next time... Do it this way okay?"

Agreement to regular student profile meetings was made and the execution of the decision was observed on regular occasions by the researcher. However, in the classroom the researcher observed continuation of practices already established, that is, regular marking of work, dialogue and individualised teaching by one teacher, the self-assessment sheets by the teacher cited above and periodic record checking by another teacher of student unit completion. The other teachers did not alter their practice in order to conference students, that is, discuss progress, set realistic individual goals, devise individualised study strategies nor solve learning difficulties. Ironically, conferencing was seen as an integral component of the Achieve programme by teachers from the originating school (QHS), and by writers on individualised programmes (Davies, 1978; Dean, 1985; Baird and Mitchell, 1986; Wiggins 1992). Clearly, teachers disposed towards assessment continued to enhance their monitoring practices, while other teachers still did not appreciate its integral role in individualised learning.

STUDY AND SOCIAL SKILLS PROGRAMME

The relationship of study skills, learning strategies and social skills to the programme were beginning to be explored by the teachers, as illustrated by extracts from a staff

meeting:

22/2/93 FN 8055

"V: There's a need for group skills because of our independent programme.

How do we run a social skills programme and when do we do it?

D: Do we define social skills first and then incorporate it?

V: What do you want in it? Like, fitting into society, study skills?

Staff: respect for others, time management, peer support activities, coping with put-downs...

V: Do you want all students involved? It needs to be done by tutors - your family group. We could start with the plan books by reading and discussing study habits. I need to know if you want a programme and if you are ready to begin with study skills?

B: Yes, I am supportive of the idea. It is definitely needed and I want all tutor groups involved.

K: Yes, I want all involved - it is a very wide spectrum.

D: Get seniors to work with 3-4 students each and get them to sell the idea.

B: I would envisage working as a circle.

V: I'd like to help with tutor groups and do it too.

D: Do we agree on a common format? Do we need training?

B: Yes

V: We need to start soon... Shall I draw up a prioritised list? Please add ideas on how they could be done..."

Only limited trialling of this programme subsequently occurred. Teachers were unsure of what to teach and how to do it. Teacher development was sought for skills in teaching such a programme. Their uncertainty underscored findings from studies of other individualised programmes where writers such as Fleming (1974), advocated the pivotal role of teacher in-service for successful implementation of individualised programmes. These teachers had received minimal teacher development.

TEACHER DEVELOPMENT

During the next month the principal acted on suggestions of the previous feedback report and initiated teacher development contacts. The staff had formed a Staff Development Committee who met with a consultant, identifying strengths, limitations and needs for development. Staff were to meet and decide on priorities, with the intention of formulating a programme to begin later that term. Possible topics included: creating varied units, group work, and assessment. At a later staff meeting (15/3/93 FN 9036) teachers were given the opportunity to rank their preferences of aspects for improving units of work. Topics of interest were subsequently chosen.

IMPLEMENTED CHANGES

Two staff meeting announcements confirmed that teachers were acting on discussion from the previous feedback cycle:

29/3/93 FN 9037

"J: There is a good response from Wairoa House, for a parents' morning tea tomorrow. Parents will observe the Achieve programme in action and have

an opportunity to ask questions about it."

19/4/93 FN 9038

"R: The psychologist is coming tomorrow to observe SH. Her grandparents will come to the meeting at which time we will write an IEP (Individualised Educational Plan)..."

V: A Senior Study Skills day is planned for three weeks time..."

The teachers were thus creating opportunities for parents to view the Achieve programme in order to be better informed (an outcome of the parent survey). Teachers had organised a Study Skills day for senior students - a need formerly identified. Translation and application of such skills into the learning programme is another issue, but teachers had become aware of the need and were addressing the problem. Finally, a psychologist had been organized to diagnose learning difficulties of a slow learner and an individualised programme was to be specifically designed for the student.

LEARNING PREFERENCES

The third cycle student interviews had indicated a desire for choosing to learn both individually and cooperatively. Few examples of cooperative learning were observed, and a brief extract from a staff meeting underscored teachers' attitudes to the notions of shared or cooperative learning:

15/3/93 FN 9032

"D: The third form are not an intelligent lot. A lot of time is wasted sharing equipment. I had to make a rule of not lending equipment because they were wasting time.

R: It is a whole school problem. It is nice to share and help, but it is wasting valuable learning time.

B: I can overlook sharing - but it is distracting and wasting time..."

Teachers' fundamental belief was one of individualism rather than cooperation, despite statements in their administrative handbook promoting cooperation. The problem was adoption of a policy from the originators of Achieve, QHS, without exploring the concurrence of their own beliefs.

4B REFLECTION

This fourth cycle was a period of translating improved understanding into practice. There had been a considerable time delay between identification of concerns, (some as early as the first action research cycle), full discussion of the issues, a phase of cogitation and problem formulation, before action occurred. Nevertheless, reflections during the fourth action research cycle not only deepened emerging themes but also brought to light new concerns.

TEACHER SKILLS

Part of the time delay between problem identification and implementation in practice

for teachers was due to inadequate meeting skills and commitment to action. Decisions were largely made on a consensus basis and being a relatively informal setting (due to the small staff), tasks were rarely allocated to particular people. Procrastination and avoidance of difficult tasks was a predicament. Teacher inertia was observed and despite intentions, units of work were not modified or adjusted according to learner needs or encountered difficulties. Teachers were discussing issues at the staff meetings but did not always seem to follow them through with action.

Although teachers stated in interviews that Achieve was ideal for WHS, teachers were generally not writing units for individual learners, particularly those of lower ability. Teachers appeared to need assistance with **how** more than **what** - they were having difficulty with organisational aspects such as monitoring and unit modification. Observation in other classrooms, schools, and staff development were urgent needs.

ACTION RESEARCH

The researcher was concerned that teachers were becoming reliant on the feedback reports for the identification and phrasing of 'problems'. In one sense observing implementation of altered practice arising from earlier identified concerns was reassuring for an outside researcher. Teachers' practice validated the action research, and the authenticity of perceived problems. In another sense, it raised questions of whether the researcher was emancipating teachers from taken-for-granted practices, or instead, further incarcerating them in their culture. Although the researcher endeavoured to design interview questions based on observations of, and reflection on, emerging trends throughout the action research cycle and reported back teacher and student responses, the interpretation and emphasis on particular issues inevitably reflected an outsider's perspective.

The challenge in the fifth cycle would be to reduce the influence of the outsider (second-order action research) and promulgate the transition to first-order action research by the teachers themselves. It could not be imposed, for that would violate the principles of action research. Rather, the stimulus for action research must come from the teachers themselves. The researcher had a view to her own withdrawal from the site, but more importantly, the disposition towards and continuation of insider action research in subsequent years. At this time, hunches and hypotheses were evolving in relation to a theory of readiness for action research.

4C EXPLORATION OF POSSIBLE PROBLEMS

Problems fell into three categories: problems for the students, teachers and the researcher.

PROBLEMS FOR THE STUDENTS

The students were becoming disillusioned as to the nature of **choice** in the Achieve programme. Choice and developing responsibility for their own learning were paramount concerns. However, student options were being restricted rather than

expanded. Units were not differentiated according to ability levels⁴, learning styles or topic choices (except for Social Studies). The sequence of topics was predominantly defined by the teacher, resulting in students studying particular topics simultaneously. The only individualised aspect of the programme appeared to be student design of their timetable, but the phenomenon of teacher-directed classes reduced this dimension of student choice. Even friends were periodically separated within the classroom in order to enhance individualised learning. Students were not in fact given choices in what to learn, or how; and the choices of when and where were also being infringed. The issue continued to grow and became a pivotal emergent theme. Awareness of, and emerging frustration with, restricted choices was being voiced in student interviews. This posed a problem for teachers.

PROBLEMS FOR THE TEACHERS

At this stage teachers were also grappling with their own needs. Teachers had become aware of their exigency for staff development, particularly in the areas of unit design and evaluation. The demands of establishing the programme had dissipated and efforts were now focused on improvement. The transition from discussion to action was a difficult one and an area in which outside support was sought. The planned staff development had potential to address this need. Openness to new ideas and willingness to experiment were to be the next challenges for teachers.

PROBLEMS FOR THE RESEARCHER

For the researcher, the challenge in the fifth action research cycle would be an unobtrusive exit from the site. Another challenge was the natural transition for teachers to responsibility for conducting their own action research and improvement of the programme for students. One means of promoting this transition was awareness raising through particular interview questions.

TEACHERS

(Details of the interview responses are contained in Appendix E).

Significant teacher interview questions and a summary of their responses were as follows:

** What do you notice about student behaviour?*

Teacher interviews revealed awareness and concern about various facets of student behaviour. Negative comments related to students' disposition to recurrent social conversation, interruptions, and work procrastination. Countering such concerns were reduced student-teacher and student-student confrontations, and improved behaviour from particular students. The majority of responses indicated considerable variation in independent learning skills with a call for development work. Opinion varied on students' ability to work with others and suitable work habits.

⁴Mathematics enabled students to select additional exercises for reinforcement of new concepts or to reduce practice examples when a concept was known. Ability levels were otherwise addressed by spending shorter or longer periods of time at a particular form level.

* *In what ways have the units of work developed since the beginning?*

Units of work had minimal or no modification since the beginning of Achieve. Most teachers conceded that the units were not catering for learners of different abilities. Correspondence courses, variable time allocations, and limited language modification were attempts to address this problem.

* *What has happened as a result of the interview feedback reports?*

Teachers acknowledged that feedback reports had focused their staff meeting discussions, encouraged reflective thinking, led to implementation of student profile sheets and teacher development, and some varied units of work.

* *What staff development have you experienced in Achieve during the last year?*

Achieve staff meeting discussions were the predominant form of teacher development experienced to date. In the future, teachers wanted Achieve to be more varied and exciting, to have more individualised programmes and to increase student motivation.

Teacher development sessions in the fifth cycle may result in realization of some of these improvements.

STUDENTS

New interview questions sought to investigate emerging trends. Questions considered notions of:

- * motivation;
- * choices in learning and learning strategies;
- * exploration of student preferences for individualised or cooperative learning and;
- * information related to the process of action research.

MOTIVATION

When asked in interviews (April 1993) "*Why do students not work as hard as they could?*" students' replies were as follows:

| Table 6.10 Reasons Why Students Do Not Work Harder | |
|--|--|
| 8 | Boring - same thing each day |
| 7 | Mood - don't feel like it |
| 3 | Units too easy |
| 3 | Teachers don't keep a close eye on you |
| 3 | Don't know |
| 2 | Too much freedom |
| 2 | Need to be separated from mates |
| 2 | No deadlines |
| 2 | Too much talking |
| 1 | Don't like the work |

When questioned further, it was the activities rather than the content which caused boredom for the students. The units were too similar in this regard. Davies (1978) argued that repetitiveness, lack of 'people pattern' variety and increasing teacher

direction are common features of individualised work once the first flush of enthusiasm diminishes.

Although the majority of student respondents had periodically experienced satisfaction with the amount of work achieved, many of them did not know what helped them to work harder. A few students cited removal of distractions, task clarity and self-confidence, 'being in the right mood', easy work or teacher explanations as being helpful. What was most intriguing was the majority of student interviewees **did not know** what would happen if they did more school work. Although several students stated it would get them ahead (time-wise, that is, they would not be behind schedule), only three students believed they would learn more. These students therefore had minimal intrinsic motivation and had little incentive to work harder for they could perceive no benefit in doing so. Instead, some students could only foresee disadvantages, like forfeiting 'time mucking around with your mates or friends'. Considerable work was required on locus of control and self-concept in relation to students' ability to tackle unknown work. Self-discipline in working alongside others and the reduction of social talk were also needed.

CHOICES IN LEARNING

The most critical aspect of learning, the question of **how** was neglected in Achieve. The majority of students had no knowledge of their preferred learning styles or strategies.⁵ Until they experienced and became familiar with their styles, their learning potential could not be realized. Their time would be inefficiently spent on techniques that were not suitable learning modes. Attention to learning styles and strategies appeared necessary in a social skills programme, along with a choice of whether to work independently or in collaboration with others.

LEARNING PREFERENCES

Students clearly showed a preference for working with other students. Helping each other, sharing ideas and reassurance were the main reasons cited. At times though, preference was stated for working alone, particularly when concentration was especially demanding. Students showed contradictory responses as to whether teachers sought their opinions about Achieve. Nevertheless, greater attention was needed to building first-order action research in the fifth cycle.

4D PROBLEM FORMULATION

PROBLEM IDENTIFICATION

Emerging problems clustered around concepts of student (and teacher) motivation, fundamental choices in Achieve, development of learning strategy and cooperative learning skills, and teacher development (in unit construction, unit modification and evaluation). Conscious building of teachers' skills of reflection and first-order action

⁵ Learning Styles and Study Strategies Inventory was administered to students. The outside researcher analyzed the inventory results in detail. Individual student profiles were returned to the teachers and suggestions made for assisting individual students. A similar diagnostic profile was provided from the PAT Study Skills. There was no evidence of teachers acting on this data.

research were also required.

EMERGING PHILOSOPHY

What is significant here is that a different philosophy of Achieve was emerging. The programme changed from a time of relative freedom and flexibility to one of tighter restrictions and teacher control; "the commonest perversion of individualised programmes" (Hammond and Collins, 1991, P.210). Teachers were becoming aware of, and beginning to question, emerging problems. Such changes had interesting consequences for the methodology.

Students and teachers alike were uncertain as to what was the philosophy of Achieve, yet it was stated in the WHS Administration handbook (1992/1993:5) that:

Achieve is a system of learning that caters for children of all abilities. Its primary aims are to give pupils responsibility for their own learning, to create for them an emotionally supportive atmosphere in which to explore the possibilities of their own learning styles, to develop self-discipline, to encourage self motivation and to give them the opportunity to learn at their own level while on individual programmes.

The ideals were present, but as the study continued, reality shaped the programme differently. Definitions of phrases like "*working at your own pace*" were the subject of debate at teacher meetings, with little satisfactory resolve. Teachers had varied views on what the essential values of Achieve were, and never thought to question what was meant by learning styles or individual programmes.

CYCLE FIVE - TERM TWO 1993 (June - September)

5A OBSERVATIONAL PHASE

Three main trends emerged during the fifth action research cycle at WHS: teacher development, the issue of control, and the genesis of first-order action research. Each of these themes is explicated in turn.

TEACHER DEVELOPMENT

Teacher development plans came to fruition during this fifth phase. Three official in-service days were held, during which educational advisers covered the topics of evaluation, cross-curricula (including problem-solving) units and active learning (student research skills). A series of day-release opportunities were also provided for each teacher to plan and incorporate new ideas into the construction of new units of learning. As indicated earlier, teachers had prior input into the sessions by discussing potential in-service topics and later ranking topics in order of preference. Teachers had consequently developed interest and commitment to the topics. Interview results (Appendix I, page 301), illustrate how teachers were stimulated by the in-service days in terms of their own motivation and in the creation of new ideas.

CONTROL

Intertwined throughout all of the previous cycles was the issue of control which became more prominent during the fifth cycle. Although the plan books were a guide to student time management and organisation of their learning, the books were also a means by which teachers monitored, and at times controlled, student activity. An example from a lesson where a teacher was circulating the room and checking the nature of students' work indicates the subtle control that was evident:

19/7/93 FN 1011

"...G: I got asked to draw this picture for art so I decided to do it now as I am ahead in English.

T: Okay, so you're actually doing art (and the teacher proceeded to alter the girl's plan book). It is for art is it - not English?

G: Yes.

The teacher moves to the next girl and signs her yellow book..

T: Right. This says English. What are you doing? You should be doing your English or else I won't be able to sign this.

G: Oh, yeah (and continues her drawing).

The teacher continues to rove the classroom pausing at each individual to either mark their work or check the plan book..."

The teacher demanded that students' planning and their actual activities coincided with their planning. At times it was difficult for students to anticipate how long a piece of work would take. Students skilled in time management used their time effectively and worked on other curriculum tasks when planned work was completed (as indicated by the first girl in the above excerpt). There was not enough space to alter the plan book if this situation arose, and most teachers accommodated such circumstances without difficulty. This particular teacher however, was pedantically checking the planning as a control technique. Ironically, the student who was procrastinating undertaking any work was subject to a teacher remark but her book was not altered. From a distance she appeared to be working, but on closer observation she continued to draw aimlessly throughout the period.

Other control-related incidents occurred which did not relate to learning per se, such as uniform inspections during assembly (the result of community complaints). On other occasions, control was work-related. Teachers walked a fine line between encouraging students to develop responsibility for their own learning, and taking the responsibility themselves.

16/8/93 FN 1129

"T: Come on - you're supposed to be doing some work young lady... Are you looking at your research? Are you trying to catch up from last week?... You boys can separate your desks there thank you. D. you are disturbing the others in your group and so I am going to move you. Spread right apart, thank you, so that you can get on with your work..."

Teachers struggled with their former roles of teachers as controllers of learning, and

often faced dilemmas when intervening in situations such as that cited above. Ultimately teachers still felt accountable for students' learning and at times that belief resulted in contravening student choice and responsibility. A classic example of this dilemma was seen during an introductory session at the beginning of the new term:

13/9/93 FN 1201

"T: This is a set period as I want to outline the term's programme. You have got ten weeks to get lots done. This time I am giving you a set order of units and dates and we'll see if that is a better system. I am going to come around to distribute the units, record numbers and give you marks for last term. Bring up any work you might have completed over the holidays. Get on with other work in the meantime until I call you up, like writing down the term's programme (which he had written on the chalk board).

"Plan of work for term 3 (10 weeks plus 3)

Reading Comprehension Wks 1+2 Hand in 24/9

Literature (Bob Marley) Wks 3+4 " " 8/10

Production (Speeches) Wks 5+6 " " 22/10

Writing Wks 7+8 " " 7/11

Research Wks 9+10 " " 19/11

Exams/activities/clean up etc 11-13 10/12"

The extract illustrates an attempt to address concerns about students being behind syllabus expectations and anxieties regarding inadequate student work habits. The teacher unwittingly contravened the fundamental principles of Achieve: students working at their own pace, students making choices in their learning and teachers being facilitators (not controllers) of learning. Admittedly the teacher was allowing students to select their own research topics, but this was merely a token gesture after the formal structure he had imposed on the students. This was not an isolated incident however, for another teacher also made demands on student work:

13/9/93 FN 1209

"T: Books out - this is mainly teacher-directed today. Please hand in your units. A few people won't get many marks for it but let me see how you're going anyway. When all marks are finalised I will put your second term grades up on the wall. Take out your purple units and we'll change them... Open up your new booklet and you will see that you need to learn the periodic table. You have three weeks to complete the topic. People get behind because they don't do homework. Most of it can be done at home and other Achieve rooms. There is no need to get behind as there aren't many experiments..."

Two curriculum areas were therefore completely organised and controlled by the teachers. Despite teachers' increasing understanding of the Achieve philosophy, the influence of entrenched practices and insoluble organisational obstacles resulted in a few teachers returning to former conventions. Gross, Giacquinta and Bernstein (1971:7) identified five basic factors that were involved in **minimal** implementation of innovations. Their findings were consistent with eventualities at WHS: teachers' lack of clarity about the innovation (WHS teachers were unsure about the fundamental

concepts of Achieve), their lack of needed capabilities, skills and knowledge (WHS teachers needed teacher development in several skills, such as developing student questioning and evaluation), the unavailability of required instructional materials (WHS had to construct their own units, very few of which were designed for differential ability levels), the incompatibility of organisational arrangements with the innovation and the lack of staff motivation (some of the WHS teachers were reluctant to relinquish teacher control and secure ways of teaching).

Teachers, by necessity, discovered their role through initial observations at QHS, but primarily through reflective staff meeting discussions. No written documents referred to essential teacher skills.

Reversion to traditional patterns by teachers who had made efforts to alter their performance appeared to be a consequence of the problems they had encountered, but which they were not able to overcome, in trying to carry out the new role. (Gross et al, 1971:160)

A similar situation was occurring at WHS, for despite discussions and policy changes, a few teachers were not able to organisationally incorporate or implement the principles of Achieve. How was the action research process affected?

ACTION RESEARCH DEVELOPMENTS

Early into cycle five (19/7/93 FN 1016), the principal took the researcher aside to say he was beginning a school review shortly. He was *"fed up with teachers not doing what he wanted, such as pupil conferences."* He perceived a need to reflect on present practices and make decisions for action. In other words, he was actually living action research by seeking improvement through the development of a critical community. He advocated teachers reflecting and developing a united approach to Achieve, rather than the diverse and at times, individualised approach. He recognised the need for a community of support and commitment to change if Achieve was to better match its ideals.

During cycle five, remarks at staff meetings signified teachers' developing reflective capacities. They began to question their practices and to refine general problems:

2/8/93 FN 1101

"D: I asked two students to evaluate their work in the previous period and when they acknowledged distractions they agreed to separate if the two of them were in the same classroom... I know they are allowed to choose where they can work and with whatever friends they like... When they are in another room they are avoiding their subject teacher.

V: You can timetable them into you.

D: They deliberately choose to do another subject.

JP: Would you like me to ask, in the next round of student interviews, why they avoid the subject teacher?

Staff: Yes

V: Do they not seek help as it could mean a lot of work?

J: It could be a teacher factor as well as friends.

D: Students who I think need the help don't come. Is that a general problem?

V: Yes

D: We need to encourage them to think they can get help. They are going to a room where they can't get help.

J: Perhaps we can solve it by conferencing.

I: Perhaps suggest to them that they go to rooms for at least 2 periods for each subject per week. Are these trends pointers?...

In this extract the teachers explored and discussed an issue. They clarified the problem to be one of avoidance of subject teachers, mainly by students who they felt needed assistance. Teachers wanted to know whether it was a teacher-student personality issue, student fear of acknowledging the amount of work not accomplished, or uncertainty over the degree of help they would receive from the teacher. The teachers also displayed an openness to other factors that might be relevant. One teacher (D), in dialogue with the students about their distractions, actually led the students through a directed reflection exercise. Teachers V and I, suggested solutions implying underlying teacher control (timetabling the students into you, and stipulating attendance at a specific number of periods per week). In contrast, D was pursuing reasoning and motivational factors (encouraging them to think they can get help), and J thought about the underlying issue of evaluation (the need for conferencing). This short extract demonstrated teachers' questioning the understanding behind student behaviour, a willingness to discuss the issue, refining the nature of the problem and suggesting alternative solutions. This was one indication of readiness for action research.

Teachers were also willing to admit and share problems they were having with particular students. The process allowed the teacher to receive support in the form of suggestions and advice from other teachers, but also in many cases, the realization that they were not the only teacher experiencing difficulties with the child. An extract from a staff meeting illustrates the phenomenon.

2/8/93 FN 1107

..R: I have trouble with Tim. He is fine in the mornings - dreadful in the afternoon. I've had a gutsful.

B: Sounds like a blood sugar problem!

R: Are Tim and his two mates a problem for others?

K: I can understand it.

R: Just when the three come to class together it's a problem. I can tell there'll be trouble when they arrive.

D: Can you separate them? Send them to different classes?

R: Detention wouldn't deter them.

D: Prevention is better than cure. Separate them when you see the signs.

J: The problem is getting work out of Tim ..."

Throughout the meeting there was evidence of effective problem-solving. It was largely stimulated by one teacher, D; although the willingness of staff to admit

difficulties and seek help was a necessary prerequisite to problem-solving. D was able to reflect and support his claims by reference to trends and patterns in student behaviour which he had observed. R, while acknowledging difficulties, began largely with general concerns and needed the community of teachers to dialogue the issue before he realized the specific problem. The teachers had developed sufficient trust in one another to enable them to share experienced difficulties. There was now a commitment to improvement with problems being viewed as challenges rather than insurmountable hurdles.

5B REFLECTION

DEVELOPMENT IN REFLECTION

The above observational phase has shown how intertwined reflection becomes with observation and action, what Schon (1983) terms 'reflection-in-action' compared with reflection-on-action. Both forms of reflection are required in action research, but ideally awareness is such that reflection-in-action is integral to a professional's practice. In contrast to the first cycle where apart from periodic hunches and comments, teachers needed the stimulus of gathered and presented data, and indeed interview questions, to cause them cognitive discordance for reflection; by cycle five teachers were themselves exhibiting a dialectical questioning approach. In the first cycle the four stages of observation, reflection, exploration of possible problems and problem formulation were quite distinct. By the fifth cycle, these phases had become intertwined and elements of each of the phases were present in all of the stages. The process became more complex and integrated, like the reality it was endeavouring to improve. This higher-level process was possible, however, only when reflective processes were developed and inherent in professional practice.

NATURE OF ACTION RESEARCH

Action research contains two essential components: research and action. The teachers had demonstrated a disposition towards research by questioning current practices, but the critical question for the researcher was whether teachers would be able to translate such reflection into practice. In this regard, it was the final feedback report session which provided both promise and disconcertion.

PROBLEMS FOR STUDENTS

What still troubled the researcher was the plight of the student. Reflections recorded in the field notes indicate the nature of those concerns:

2/8/93 FN 1034

"Students do not seem to apply themselves very well. Why?"

- a) units not relevant to their perceived needs?*
- b) no sense of urgency for completing work - unaware of curriculum demands?*
- c) inadequate social skills to cope with distractions of others (aggravated by the freedom in Achieve to sit and associate with friends)*
- d) liberty for social talk - teachers attempting to create an atmosphere of friendliness and the opportunity to work together?*
- e) teachers still not capitalizing on the feedback of student preference for*

- working together - need to develop student work, interpersonal skills and design units which encourage allocation of tasks*
- f) boredom with similar structure and types of tasks - reading and writing*
- g) students need encouragement and teaching of skills related to research (locating data, pursuing own topics, seeking data beyond the school)."*

There seemed to be an underlying problem of motivation which was not helped by seemingly irrelevant units of work and work not matched to students' knowledge or skill levels. Teachers required considerable development and time to reflect on, and create, appropriate units of work.

GENERAL PROGRESS

However, progress is acknowledged in another reflection which recorded subtle changes that had occurred:

16/8/93 FN 1136

"I realized some changes had occurred:

- 1. Teachers' ease at continual roving of the classroom now.*
- 2. Students' ease of questioning; more specific pinpointing of exactly where they were stuck. It was no longer considered 'dumb' to ask questions.*
- 3. Neighbouring students either listen, help or ignore student-teacher interactions adjacent to them. (They can be selective for information - listening when interested; ignore when the data is irrelevant to them)."*

SUMMARY

Problems for the final round of interviews related to:

- * the extent of implementation of former teacher discussions;
- * the current learning situation for students;
- * the transition from second-order to first-order action research for the teachers;
- * future visions for the Achieve programme in terms of process and product

5C EXPLORATION OF POSSIBLE PROBLEMS

Interview questions were subsequently formulated. Teachers were given a draft of their own and student interview questions, and the opportunity to modify or create new questions to be posed. Teachers were also interested in a second parent survey, asking the researcher to draft questions (from which they made suggested changes).

TEACHERS

The details of questions and responses are included in Appendix E, but the interview themes consisted of:

- * reviewing the usefulness of the staff development sessions;
- * exploring possible data gathering;
- * relating concerns and satisfactions to the Achieve programme;
- * catering for different learning needs;
- * perceiving contradictions between students working at their own pace and teachers'

- setting deadlines;
- * providing choices in students' working alone or together;
- * reviewing changes made and progress in monitoring and evaluation;
- * reflecting on the involvement of an outside researcher;
- * thinking about the future of the Achieve programme.

STUDENTS

Student interview themes endeavoured to pursue the issues of:

- * choice;
- * motivation;
- * subject teachers;
- * awareness of own learning styles and skills;
- * progress at school;
- * teachers' interest in student views;
- * awareness/involvement in the action research process.

5D SUMMARY OF RESULTS AND PROBLEM FORMULATION/ RESOLUTION

A summary of the results and problem formulation occurs in Appendix I. At this stage of the action research the important issue is the content and the process of the school community's reflection on the collated results. An indication is given here of student and parent views, with the reflection process undertaken by teachers indicated in the next section under 'Final Feedback Report Discussion'.

STUDENTS AND ACTION RESEARCH

Students appreciated teachers' seeking their opinions on the Achieve programme and suggested several means for teachers doing this: surveys, during teaching, and interviews. A few students were a little sceptical about the difference their opinions would make. An interesting trend emerged of students becoming more reflective and slightly critical about the nature of their work. They were becoming less apathetic and thinking more about their work - moving towards greater self-responsibility for their own learning.

SUGGESTIONS FOR THE FUTURE

As a result of the student interviews, a number of suggestions were made for teacher consideration which are detailed in Table 6.11.

| |
|---|
| Table 6.11 Suggestions From Student Interviews for Changes in Achieve |
| <ul style="list-style-type: none"> * providing greater choice in the unit topics; * creating more investigation units; * differentiating units for various ability levels; * developing study skills (particularly research skills); * wanting more encouragement and guidance on students' academic development (more frequent tutor conferencing); * negotiating unit completion dates. |

PARENTS

The parent survey results (details are recorded in Appendix H), revealed endorsement for certain aspects of the Achieve programme, and uncertainty about other factors.

Table 6.12a Parent Survey Endorsement of Achieve Values

- * the principle of students having choices in their learning;
- * that the plan book helped parents talk with their child about their work;
- * that the work their child was asked to do was about the right level for them;
- * that their child was receiving sufficient help from teachers;
- * that they would very much like to know more about their child's progress at school.

Table 6.12b Parent Survey Uncertainty about Achieve

- * whether Achieve was the right programme for their child, although the majority of respondents still endorsed Achieve;
- * a greater proportion of parents agreed with the statement that their child found school rather boring;
- * parents generally were not in need of more information about Achieve (usually those parents who did not like the programme).

The open-ended responses suggested the desirability of more variety incorporated into the structure of Achieve.

5E FINAL FEEDBACK REPORT DISCUSSION

The last feedback discussion reveals development in teacher reflection, greater depth in understanding, and open discourse amidst personality and political patterns. A comparison between the first and the last feedback discussions indicates the growing comfort of the staff with the research process for it was inappropriate to tape record the first meeting, but it was fully acceptable to record the final meeting.

It will be recalled that the first 'feedback staff meeting' was the first occasion in which teachers had discussed the philosophy of Achieve. Teacher interview statements suggested that many of the teachers perceived Achieve as being an individualised programme, primarily allowing students to choose their location of learning and the pace at which they worked. However, they did not fully understand the central premise of 'independent learning' nor the varied modes of learning which could be consequently undertaken. Teachers initially hesitantly shared their views and intentions; later meetings revealed a greater ease in this communicating, as their understanding and confidence in the programme grew. A verbatim account of extracts of the last meeting (over the next five pages) demonstrates the difference.

Final Staff Meeting 11/10/93

D opened the meeting. He handed over to JP to give feedback and for teachers to discuss their questions.

JP: What I have tried to do in this report is tie things together and give you an overview from the beginning of 1992 to October 1993...

B: On page 8 reference is made to the teacher trend of increasingly set deadlines. Why I set deadlines now is the students have been jolly lazy. They had the availability to work at their own pace and took this as an opportunity to wave away their potential. They have to motivate themselves but they kept coming up to and relying on the teacher to keep them working.

J: And I still find it hard to get the homework - because I don't see them the next period or the next day..."

The principal had asked all teachers to submit a few questions for staff discussion. His initiative on this matter and the reflective nature of some of these questions indicated a disposition to first-order action research. Teachers had begun to question their formerly taken-for-granted assumptions, and had realized their capacity to change structures in which they worked.

The discussion acknowledged difficulties teachers had experienced in the tension between student and teacher control. They struggled with this dilemma throughout the study, but this was the first occasion on which they debated the issue at length. Their reflections here suggested an underlying problem of student motivation - a problem to which the discussion later turned.

HOMEWORK

"R: I don't know they are doing much homework at all.

D: We have been discussing ways of checking homework. At the moment I am doing an experiment and I am collecting data on homework which I will present to you people in about three weeks time. The kids don't know what is happening. Form three maths is teacher directed and has been for awhile. Just before they finished today I put my signature down and the date. Next time they come to me I will know exactly how much work they have done for homework. Because they have only three periods of maths at school I know every period they are in room two. As they come to room two at the beginning of the period I then quickly have a look at where my signature is and how much work has been done after that and if they have done more work it can only have been done in homework time. I signed the book on Friday. Today I got hold of ten students who turned up for maths. Out of the ten, none of the kids had done their homework over the weekend. Not a single child had completed a maths problem for homework. Now don't let this out to the kids. I am going to do this for 3 weeks and then I'll have more facts.

R: You could check that from Friday to Monday but how do you know that some of those children have not done another maths period?

D: Because maths is not in Achieve.

R: You still could do another maths period in some other Achieve period.

D: It will be in their timetable.

R: Yeah... but you could do a bit more in another Achieve period, say English.

D: Well if they do I welcome it. That's the best I've found so far. If anyone has got a good idea I'll take it on board.

J: I actually thought that as you go around the room you'd mark the end of

whatever they finished in your room, just your initials and the date. I was amazed when I investigated today, some students just do so little. They don't make a noise so they aren't drawn to my attention because they look like they are doing something.

Two teachers: Yes.

D: Well that's what has come out in the interviews. They say very clearly that it is easy to not do anything in the classroom because they won't be chased..."

This was the most in-depth discussion that the researcher observed. One teacher reflected on hitherto unnoticed avoidance of work by quiet students in her class. Her simple but systematic monitoring highlighted revelational information. What was more notable was that D had reflected on the issues of homework for some time and had initiated his 'own experiment', collecting data and testing his hypothesis that students did either minimal or no homework. This was the first indication of systematic data collecting from the teachers themselves - signifying a readiness to conduct their own action research projects. Discussion alerted D to potential flaws in his study, but the other teachers could not improve on his plan of action. His 'offering' stimulated another teacher to reflect on the problem of motivation.

MOTIVATION

"V: I think we have a motivational problem that we need to solve... It's a real battle to actually get them to see that there is life outside this town. They don't want to leave town and can't see why they should. They can't see the opportunities..."

Several teachers: I agree..."

The discussion continued, but although teachers aired their views, no plan of action was devised - the fundamental problem with this staff. Chairing skills were lacking; frequently discussion diverted into tangents with no forthcoming action. One teacher dominated discussion and spoke over the top of everyone - in terms of timing of entry to the discussion and in volume, despite her role in leading and chairing the discussion. Consequently, other peoples' contribution to the discussion was restricted. They needed a chairperson to keep them on topic - to paraphrase what had been said, and determine some solution. Discussion continued.

REFLECTING ON THE CHANGED ROLE OF THE TEACHER

"V: What has been successful in Achieve?"

D: I think to change from a teacher to a facilitator itself requires skill. We certainly have gained a bit because it is a different job and you can see that.

J: I think it is very hard for old time teachers because I really think it is a re-training - a natural re-teaching.

B: That's true.

O: I quite enjoy helping with other subjects. That's probably my primary teaching showing through.

N: It's good working with different groups.

V: I get a real buzz if someone comes into my room with maths and I can actually do it. (Burst of laughter from staff)

V: Buzz! They can't do it so I go back to where they started from and I go yeah, yeah, this step, this step and we get it right! That is real good. That gives me a wee bit of confidence. I am not nearly so scared now when they come in and they sit down and I see they are doing maths.

D: Well that's a good teaching thing for the kids too because they could have done it for themselves if they had gone back and looked at each step perhaps."

Teachers spoke of unexpected enjoyment of helping students with different subjects from their areas of expertise. Initially most teachers found this experience threatening, as V revealed and explained the strategy she employed. Although O made the connection that these were the very skills students needed, teachers did not reflect that they needed to demonstrate this skill more explicitly to students.

STRUCTURAL INFLUENCES ON STUDENT BEHAVIOUR

"O: The thing that amazes me, is the change from one period to the next. One period they are abominable; next period you can have mostly the same kids and they work beautifully and quietly. I can't see why the change.

J: Do they change their subject? A subject change?

R: Have you thought about their concentration being better in the morning than in the afternoon?

J: Yes the second period or even after lunch.

B: I've noticed that, although not quite as much as you. You're saying different periods on the same day?

O: Same day.

B: I've noticed it on different days -

O: It happened to me today between period 3 and period 4. Period 3 they were abominable, period 4 quite a number of -

V: They are hungry! (Laughter and agreement from staff members).

O: I find period 3 one of the worst periods in the day.

R: Yes. Our present break is prime teaching time. It's a long time..."

This excerpt demonstrated the clarification of a problem. Two teachers discovered that their experiences did in fact differ, although the general concentration issue was a wider school issue. It required a teacher outside the central discussion to identify an obvious factor of hunger. This point highlights the importance of oral discussion for the extension and testing of one's reflections and hypotheses in the reflective process. The teachers reached an insight at this stage that would have been impossible from solitary reflection - that perhaps the issue was a structural one - their present timetabling. The teachers illustrated a readiness for action research with questioning structure - and the possibility of structural change, which had hitherto been impossible due to an interchange with a nearby school.

TEACHER PLANNING AND STUDENT WORK

"O: I've noticed that teacher planning has improved, well, for me.

J: Yes - I am so much better prepared. It's all been done.

V: Also you do more of an analysis of what you have to get done, don't you?

J: Yeah.

JP: A long term view?

V: Yeah. You look at the whole year and you say by the end of the year I want them to achieve this and this. To do that I've got to do this...

J: I think my students are learning a lot more. They are getting through a lot more material, for some reason.

O: I agree, they are getting through a lot more. That does however, contradict what we were saying before that a lot of kids appear to be doing very little.

JP: That's interesting. So you're finding then that they are not doing as much in a period as perhaps you would expect-

J: Yet they are covering more work

V: Yeah ..

JP: Yet they are not doing homework, so when are they doing the work?

J: I think that what is happening is, that I'm not wasting time talking to them, which I think is what teachers do. (Roars of laughter)

R: You are exactly right.

J: Yeah, wasting time waiting for everyone to catch up, checking everyone is on the right page, and for everyone to do this..."

This section of the discussion indicated that teachers as well as the students had improved their planning. Consciousness of assisting students caused teachers to reflect on their own planning, which was also enhanced by the necessity of planning units in their entirety prior to commencement of learning. This was another unexpected outcome, which required reflection and discussion to discover. Such unexpected revelations surprised the teachers and often resulted in laughter. The second section of the discussion completely contradicted an earlier section where they despaired over the minimal amount of work achieved. It also contradicted their claims of no homework being completed. One teacher recognised the contradiction, but it required questions of clarification from the researcher to probe the underlying teacher, rather than student behaviour.

CHALLENGING THE ACHIEVE PHILOSOPHY

"J: Students like to discuss and sometimes I worry about us replacing ourselves with paper. So that's why I see them with set classes, which I know is not Achieve, but I -

V: No, it is. It is variety. I had set classes this year when I did Romeo and Juliet. Students came for two weeks.

R: One thing that bothers me is the confused messages I think we send the kids. We're on Achieve, but you're on set classes. Like the third form is always on set classes, or we're telling them they are on Achieve and they've got a choice, but in actual fact it is a confused message.

D: I think there is a misunderstanding here. The subject teachers decided that and the students were informed. They were not doing enough work. At the moment I have a contract, individually with them and their subject, so have other teachers. Once they reach that then they are on their own. The contracts are individual ones and independent.

V: So the whole third form are not on set timetables?

D: No, I think for English it was only term two.

V: No wonder the students are confused - if the staff are!

O: I expect the third form to be with me for one period a week on a Friday.

B: Well I am doing something new too this time. With form ones, we have what's called entertainment day. That's Tuesday and they come as a set class and whoever has done something like a debate or board game, that's the day they give it to the group, because that was the only way I could get the actual speaking to the group. If nobody has anything prepared, then that day is just a set class. That's what I tried and I'll see whether it is a success or not..."

Teachers in this discussion debated their concepts of the philosophy of Achieve, and to what extent they allowed individual and collaborative teacher action. The difficulties of confused communication amongst themselves and the students were highlighted. This developing awareness per se, perception of contradictions, the clarification and deepening understanding of their philosophy and practice of Achieve, indicated a readiness to conduct their own action research.

SUMMARY

The development of reflection, discourse and understandings of the teachers is illustrated in the above extracts; a contrast from earlier meetings. The free-ranging dialogue allowed a greater depth of discussion. However, the free discourse of which Carr and Kemmis (1982) write, was more complex in reality. Although difficult to portray in the written form, body language and data from other occasions (observed meetings, casual conversations, observations of teacher interactions, teacher interview data) revealed restrictions in discussion through behaviour that was either dominating, causing divergence of discussion or failed to transform understandings into practice. As identified in the methodology chapter, teachers focused on classroom concerns, and required the stimulation of a self-critical community to develop a more objective stance to perceive problems as school-wide, before translating them into district and nationwide educational issues.

REVIEWING THE ESSENCE OF THE FIVE ACTION RESEARCH CYCLES

In order to highlight the essential trends of the five action research cycles, two brief analyses are included in this final section. The first analysis portrays developing teacher awareness and reflection during the action research study. Interview analysis of three teachers reveals the evolution of a disposition towards action research through varying developmental processes. The second analysis is based on triangulation of trend development of student and teacher interviews, and parent survey responses. Fundamental questions common to the three groups are examined and convergent themes identified.

DEVELOPING TEACHER REFLECTION IN ACTION RESEARCH

Teacher interviews provided opportunities for teachers to portray contradictory thoughts, practices and reflective comments. To illustrate the changing reflections over the course of the study, three teachers' views were selected for analysis. (Details are recorded in Table I.1 in Appendix I, pages 296-298). A summary analysis occurs below. Rather than confusing the issue with analysis of all teachers,

three teachers were selected because they represented different developmental trends:

1. J. portrayed a negative perspective at the outset, which changed to neutral towards the middle of the study and a slightly positive outlook by the end;
2. D. demonstrated an initial openness, a developing critical awareness and disposition towards conducting his own action research;
3. K. began enthusiastically, but ended with a dispirited perspective.

J was a person who showed a gradual change from having reservations to deeper consideration of the issues. He revealed changing notions of his own teaching style and expectations, struggles with the concept of teacher and student control of learning, and a reversion to concerns about teacher control and efficiency. His initially reluctant support for Achieve was partly due to his own uncertainty of the basic philosophy of Achieve. When the question was changed to seeking the benefits bestowed on students, J was more able to speak on educational concerns. The main values and limitations of Achieve, for J, centred on responsibility and motivation. Throughout the series of questions on change, J shifted to focus more on learning; in particular, individual learning. He did not resolve the management issues however, and thus wished to retain control of learning. When asked about the action that had taken place, J revealed an **increasing awareness of the philosophy** of Achieve, in other words, **became to understand and justify his practice** (the ultimate purpose of action research), became increasingly **aware of the need for numerous improvements** (initially he had not seen any), and **began to action some decisions, that is, alter his practice**.

D demonstrated a gradual awakening of awareness of issues and areas in need of improvement, deeper understanding of the philosophical basis of the programme and a commitment to improving practice. (Although not evident here, D also initiated a small action research project at the close of the study). When questioned about challenges, frustrations and rewards, D indicated concern for the content of learning and governmental control of learning, which shifted over time to a dilemma pertaining to the tension between teacher and student control of learning, student motivation and work output. This trend was consistent in other questions, for D viewed the main values and limitations of Achieve to be centred on learning, both academic and social. Such values enabled D to develop from a class teacher to a teacher of individuals, and indeed, student initiated learning. Learning and responsibility were key subconscious issues for D. However, in considering possible changes in Achieve, D revealed minimal reflection in 1992 with focusing on planning and deadlines, to a concern for a greater variety in learning and by the last interview, awareness of the need for numerous improvements. This identification of the existence of problems is an essential prerequisite readiness stage of action research - the substance of chapter eight. Finally, when asked what action had occurred, D noted increased monitoring and variety in learning, **an increased awareness of problems and a myriad of alternative interpretations on them**; and cited **examples of changes in his own practice**. D revealed increasing understanding of teaching practice and a willingness to experiment with ideas. Evidence from field notes contained lessons experimenting with cooperative learning, problem-solving, research

and activity-based learning.

In contrast, K intimated an underlying attention to relationships, particularly between students and teachers. He focused on relationships at the initial and final interviews with questions regarding challenges and rewards of Achieve and his role as a teacher. Values and limitations for K pertained to students working at their own pace and the difficulties for teachers in maintaining regular student monitoring. Changes were not a focus of K's initial attention, suggesting minimal reflection at this stage as well as the demands of implementing a new innovation. However, he gradually changed to an increasing awareness of difficulties, particularly with student choice, freedom, responsibility and monitoring, to finally the student-teacher control dilemma. This change was partly due to his growing understanding of the philosophy of Achieve: from a value on students determining their own pace of learning, to individual achievement and eventually, a belief in treating students as individual learners. He spoke of an enthusiasm for student monitoring (thus checking on their pace of learning), and a gradual focusing on learning, when asked about changes. Such rhetoric was contradicted in practice however. When questioned further, he conceded that he had implemented few changes himself; perhaps a factor of his imminent departure from the school. Thus, **K showed some modification to his understanding of Achieve, but no change in his own teaching practice.**

The three teachers revealed a gradual awakening of understanding of the theoretical and philosophical basis of Achieve. This developing understanding coincided with awareness of contradictions in practice; that alternative ways of operating were possible and that they themselves could effect change. Improvements had indeed occurred in their understanding and practices; the central intent of action research.

How did these three teachers' development in understanding and practice of both Achieve and the action research process compare with the wider school community?

| | Students | Teachers | Parents |
|--|--|--|---|
| Likes | <p>Choice/control - classes, teachers, timing, pace, subject, variety</p> <p>Friends - social relationships</p> | <p>Increasing student control - planning, work habits, organisational skills, learning</p> <p>Social relationships between students and teachers</p> <p>Focus on learning - questions, discussions, individual teaching</p> | <p>Choices - pace, room, timetable</p> <p>Student responsibility - planning and organisational</p> <p>Students enjoying learning</p> <p>Social relationships - working with friends</p> |
| Dislikes/ concerns/ changes sought | <p>Teacher control - retraining, pace, room choice</p> <p>Learning - understanding work</p> <p>Restricted choices - work alone or together; variety sought in units</p> <p>Responsibility for own learning</p> | <p>Student control - planning, work habits</p> <p>Teacher-student control - balance of responsibility for learning, organisational skills and student motivation</p> <p>Individual learning - unit variety, changed teacher role</p> <p>Organisational - time, monitoring, group work</p> <p>Community - not unified practice, understanding Achieve philosophy</p> | <p>Control - monitoring, discipline (work habits), organisation of learning, subject balances</p> <p>Individual learning - need more teacher help, concerns over teacher availability, changed teacher role</p> |

Teachers demonstrated a growing trend towards learning and teaching concerns as organisational apprehensions diminished. They became increasingly critical of the lack of staff action on discussion points. Teachers were therefore becoming concerned about translating theory into practice. This awareness led them to question the philosophy and practice of Achieve. Similarly, the students gradually came to question the contradictory practices of Achieve, in particular, their rights to choice and independence. Underlying concerns about learning were evident in their quest for more varied units of work and increased teacher assistance. Parents expressed similar views. A detailed analysis occurs in Table I.2 in Appendix I which is further analyzed in Table 6.13 (page 164), based on data analysis techniques of Miles and Huberman (1984). The outcome is a matrix display of convergent themes, thus identifying key areas of common concern amongst the school community.

Evident throughout the interview and survey period and across the three groups of participants in Achieve were concerns about social relationships, choices, control and learning. Although the balance of concerns varied, trends were consistent and became emergent themes; the subject of the following chapter.

CONCLUSION

The chapter has traced the development of the content and the process of action research at WHS over an eighteen month period. Cycle one (term one 1992) portrayed the natural setting of the Achieve programme. Some early contradictory practices revealed inadequate understanding and skills in the Achieve philosophy by teachers and students alike. Choices in learning and concomitant responsibilities were challenged and constrained. Teachers struggled with issues of monitoring, insufficient teacher development and inadequate understandings of individualised learning programmes; while students faced difficulties in teacher availability and under-developed independent learning skills.

The second cycle (term two 1992) dealt with tensions between individual and group work, student planning and inadequate student monitoring. Students and teachers demonstrated improved questioning skills. Teachers became more confident as facilitators of learning, but experienced difficulty in relinquishing their control of learning. This difficulty was to become a growing trend.

During the third cycle (term three 1992) student monitoring again came to the fore, as did the dilemma between students determining their own pace of learning and teachers imposing constraints with teacher-directed classes and assignment deadlines. Discipline and control emerged as related issues.

Cycle four (term one 1993) issues concerned: student choice and teacher control, student monitoring, exploration of a study and social skills programme, consideration of teacher development, continuing dilemmas between individualised and cooperative learning, development in action research, and concerns over student motivation. Increased understanding of the Achieve philosophy translated previous discussions into action with the implementation of several changes, such as more detailed student planning and regular student profile meetings.

Finally, cycle five (term two 1993) dealt with teacher development, the issue of student choice and teacher control, and action research developments. A detailed analysis of the final feedback meeting revealed teacher willingness to collect and analyze data, growth in teacher reflection and a critical community to the extent that teachers were able to undertake first-order action research. These findings were verified by triangulation of student and teacher interviews and a parent survey.

Arising issues throughout the five cycles developed into emergent themes:

- * individualised and cooperative learning;
- * pace of learning;
- * choice and;
- * control;

the substance of the next chapter.

CHAPTER SEVEN

EMERGENT THEMES

INTRODUCTION

As intimated in the chapters on *Methodology in Action* and *Five Cycles of Action Research in the Achieve Programme*, developments in the Achieve programme revealed recurring issues and emergent themes. Coding of field notes and general data analysis verified the significance of these recurring themes. As Anderson and Burns (1989) contend, interpretive researchers move backwards and forwards across settings, bits of information and phenomena, exploring part-whole and whole-part relationships. Reflection on field notes and other data enabled insights to be generated and emergent themes to be identified. This occurred in three phases: discovery, coding and discounting phases; based on the qualitative data analysis schema of Taylor and Bogdan (1984) cited in Anderson and Burns (1989).

The discovery phase involved reading the data, searching for emerging themes, and developing concepts. Numerous analytic memos and flow diagrams were written during this stage in an endeavour to relate ideas and concepts. The second phase, coding, involved a three stage operation. The first step entailed indexing topics recorded in the field notes for efficient retrieval. Once this identification was completed a coding scheme was devised so that notes were classified into general categories such as pupil-teacher interactions and particular tutor group situations. The third step was to determine the frequency and importance of particular trends and portrayals in order to discern the significance of emerging themes. In the final discounting phase, emerging concepts and theoretical propositions were verified against summary interview response charts of students and teachers, summary parent survey results and field note composition. The final validation related to staff meeting discussion points and aspects that were actioned by the participants.

The central issue for participants in the Achieve programme related to **understanding the philosophy of Achieve**. Achieve was adopted by WHS without critical discussion of its meaning or implications for practice. Teachers did not initially question the philosophy for it was not thought to be problematic, and the practical demands of implementation were of overriding importance. Only later staff discussions (as a result of feedback reports) and revelations of differential practice led staff to realize they had superficial and varying understandings. A manifestation of the participants' varied interpretations was their personalised use, and indeed understanding, of the pivotal concept of '**individualised learning**'. Classroom observations and interview responses revealed that participants understood individualised learning to mean students working on units of work with minimal teacher or student assistance. Students were to work through units at their own pace without being delayed by unnecessary teacher explanation or waiting for the attention and understanding of other students, as commonly occurs in conventional classrooms. Slower learners would be afforded additional time and teacher assistance, freed from the usual commitments of classroom teachers. Addressing individual differences, beyond that

of time and additional (or reduced) teacher assistance, became problematic during the study as it became clear that particular students were not responding to the programme. Teachers gradually realized that they had varying interpretations of the philosophy of Achieve, and that learning alone had limitations as well as intended benefits. Assumptions made by participants in the term's definition led to contradictory practice as depicted in chapter six. Their role as teachers was challenged and ultimately changed. With an increased awareness of the philosophy of Achieve and experience in the programme, they began to question the structure of Achieve and, indeed, the basis of individual learning. The development of this trend and their understandings are further explicated in the section below under the heading of **understanding the philosophy of Achieve**, and the dimensions of **learning alone**.

As teachers and students adjusted to learning alone they realized the value in previously unquestioned practices. Teachers yearned for group discussions and activities as well as the social dimensions of class teaching that were nonexistent in Achieve. Students also missed the social contact and support in learning from working together with others. Variety in learning experiences was reduced by the absence of **cooperative learning** in the programme. The sparsity of cooperative learning observed in Achieve was attributed to an initially limited comprehension of cooperative learning and a low value accorded to it by the teachers. The concept of **learning together** became problematic in the programme due to teachers' original misunderstanding of the concept and their failure to see its potential and parallel use in an individualised programme. Intuitive craft knowledge (Grimmett and MacKinnon, 1992) of learning and teaching resulted in teachers unwittingly incorporating elements of learning together, but the practice was initially surreptitious as it was thought to contradict the Achieve philosophy. As teachers grew in their ability to learn and work together as a staff, their communication became more open and the dilemma between learning alone and learning together emerged. Critical discussions and reflections involved in this realisation are illuminated below.

At a deeper level than the themes of learning alone and learning together in Achieve was a fundamental belief in and misunderstanding of the notion of **choice**. Choice is a critical concept in individualised learning and in particular, motivation theory as a core stimulus of developing interest and responsibility in one's own learning. Choice was a highly held student value in the programme, as revealed in student interviews. The theme emerged as a result of student confusion and consternation when conflicts occurred between the rhetoric and the reality of the programme. Choices were suddenly restricted and withdrawn as a result of addressing organisational difficulties. Inadequately developed understandings and skills on the part of students and teachers alike led to contradictory practice. Inconsistent philosophies and programme delivery were the cause of, and were caused by, uncertainty over the value of choice in developing independent learners. The realities of programme innovation and management, and development of a critically thinking community resulted in the realisation of the illusion of choice in educational programmes.

Closely linked to the theme of choice was the pervasive issue of **control**. Control

between learners, between teachers and learners, and amongst teachers became a strong underlying theme in Achieve. The balance of control oscillated between the various groups according to emanating understandings, skills and practice. The tensions were vaguely sensed by participants, but only later reflection and data analysis revealed the intricate web of power and responsibility.

Thus, the major emergent themes in the action research study of the Achieve programme at WHS were: understanding the philosophy of Achieve, learning alone and learning together, choice and control. Each of these themes is now examined.

UNDERSTANDING THE PHILOSOPHY OF ACHIEVE

A number of threads intertwine the philosophy of Achieve. The ensuing discussion examines several of these threads, initially those related to learning alone: learning at your own pace, individual planning, individual differences, adjusting to teaching individual learning, re-thinking the structure of Achieve and questioning the value of individual learning. The discussion on 'learning alone' is followed by examination of the concepts of learning together, choice and control.

LEARNING ALONE

Learning at your own pace

Esbensen (1971) argued that individualised programmes are often differentiated in three ways: pacing, materials and objectives. Ideally, individualised programmes contain elements of all three components, but in reality pacing is the most frequently adopted element. This was the case in Achieve. It was apparent from teacher and student interviews (for example, March 1992) that choice and working at their own ability and pace were the dominant understandings of the concept of individualised learning. Throughout the numerous staff meeting discussions and interview schedules (refer to Appendices), it became apparent that 'learning at your own pace' was the central tenet of Achieve. However, as portrayed in the chapter on the *Five Cycles of Action Research in the Achieve Programme*, the concept was subject to considerable teacher disquiet. Even during the first action research cycle teachers began to usurp control of students' pace of learning. Teachers were faced with the demands of the syllabus, their own expectations, covert accountability issues, and feelings of obligation to complete the syllabus - particularly in classes preparing for external examinations. Teachers were accustomed to having control and determining the pace of learning. They were consequently frustrated at students seemingly 'mucking around' and evading work. Teachers experienced considerable anguish and inner conflict at the boundary between their responsibility for student learning and the relinquishing of such responsibility to the students.

Students also understood Achieve to be about determining their own pace of learning (student interview data). From the students' perspective, the freedom and choices evident in determining where and when they could work were highly popular, not only at the beginning, but throughout the programme. Students liked the idea of

deciding their own pace of learning and, for many, the subsequently reduced pressure to 'keep up' with the conventional programme. It was, therefore, of considerable frustration, confusion and annoyance to students when teachers began to exert restrictions such as teacher-directed classes and assignment deadlines. These procedures revealed areas in which greater reflection and critical discussion was needed to develop participants' understanding and practice of individualised learning. During the earlier action research cycles teachers did not comprehend that individualised learning meant more than allowing students to determine their own pace of learning and teachers devising written units of work targeted at the 'average' level. It took some time for teachers to adopt Correspondence School Courses for the particularly slow learners. Adopting these programmes did not, however, solve the problem of addressing other students' learning needs. The need for differentiated learning units was a recurrent theme and is thus discussed in greater detail below. Implicated in the determination of one's own pace of learning is the selection of appropriate content for learning, that is, in the writing of goals. The planning and writing of goals was an integral component to the determination of one's own pace of learning, and thus to Achieve itself.

Individual Planning

At the outset, students were not used to determining their own goals; indeed they were uncertain as to how to write them. Students were totally ignorant of what were realistic expectations for achievement during each period and did not appear to understand that they were expected to accomplish what they had planned. Nor did they understand the wider timetabling implications of syllabus demands and expectations. They thought of planning as only deciding location (the particular classroom) and sequence of learning (that is, the curriculum choice during the day). As the programme progressed, student timetabling evolved to a fairly regular schedule, dependent on the availability of particular teachers, rooms and friends. Many students merely copied the previous week's planning schedule except for occasional alterations due to teacher-directed classes. Assignment deadlines and teacher insistence on weekly subject balance later modified these plans.

Despite teachers' best intentions and attempts to teach planning skills during tutor periods, students were not equipped with the time management skills to ensure efficient working habits. Learning strategies were not taught for it was either assumed that students already had these skills, they were deemed unnecessary, or teachers were oblivious to their value. Teachers did, however, begin demanding more detailed planning in asking students to record page numbers, exercise numbers or activities they intended to complete during a specific period. This feature assisted the more organised students in their planning by breaking the unit into smaller tasks. However, the procedure appeared to have minimal influence on less self-directed students.

Towards the end of the fourth action research cycle and as a result of the conscious vigilance of teachers, most students seemed to realize the commitment implied in what was written in the plan book and the work intended for that period.

Occasionally this caused minor confusion when work was completed earlier than anticipated or something prevented the student from doing the work recorded, as teachers verified their classroom activity against their planning. However, the fundamental issue that was not addressed was the determination of an appropriate pace of learning for each student. Because students were not expected to evaluate their performance according to goals nor the extent to which they believed they had worked to capacity, there was no means of ascertaining whether in fact each student was learning at an optimal level. Although an evaluative dimension to planning was introduced into Science during the third action research cycle, it only referred to the unit as a whole, not each period. The lack of time-sampling and detailed observational schedules of students by themselves or by their teachers, and minimal student conferencing meant this valuable data was not gained. Interview responses (fourth action research cycle) revealed that most students believed they could work much harder. The question of why they were not working to capacity related to a pervasive student and district culture which affected the underlying and complex concern of motivation.

The student and wider community culture did not embrace a highly developed value of achievement. It was a culture of low academic aspiration, perhaps realistic given the sparse educational and employment opportunities in the district. Students were encompassed in a culture of complacency where a stress-free and 'laid-back' existence was valued above that of hard work and academic striving. Students were used to an educational culture where they were either not expected or not encouraged to think for themselves. They were generally compliant and accustomed to lower-order thinking. Many of the students had a limited perception of control and could not perceive the connection between working harder and increasing their learning or future employment opportunities, as revealed in the April 1993 interviews (refer to Appendix E for details).

The greatest frequency of response by students indicated that they did not know what would happen if they worked harder; hence revealing a 'pawn' rather than an 'origin' perspective. It is well known in the motivation literature (such as Kolesnik, 1978), that students who have an awareness of their locus of control, (that is, perceive that their efforts and activities determine their achievements), have greater self-expectations than the externals, with consequently higher achievements. Although there is debate in the literature about the limited long-term value of extrinsic motivation, it was clear that extrinsic motivation was a key factor with some students, such as the promise of particular gifts or privileges from home which had a dramatic effect on their ability to apply themselves at school (refer to Appendix E for the fourth action research cycle student interview responses). Smaller units of work and more achievable and varied tasks seemed to have a similar effect on the motivation of other students.

One manifestation of low levels of motivation related to the students placing a low value on homework, a source of great frustration to teachers. Attributed to the low value of homework was the perception of students that school work was less than relevant. As indicated above, not only could they perceive minimal value in working

harder, the apparent irrelevance of some units of work was also a factor. This was partly due to units of work generally being too difficult for students and requiring considerable reading and writing, but also that students had little control and hence interest, in the topics of study. It appeared that minimal adjustments were made to adapt programmes to individual differences; a fundamental component of individualised programmes (Hammond and Collins, 1991).

Individual Differences

Because units of work were not adapted to individual needs, some students began to lose what motivation they had. Numerous students experienced feelings of isolation, boredom and a need to interact with other students. This phenomenon is not unique to Achieve however, as indicated by experiences of such researchers as Baird and Mitchell (1986) in the literature review. Teachers perceived difficulties with many students not working to expectations and their own inner conflicts defining boundaries of teacher and student responsibilities, as well as a changed teacher role. Their solutions were the implementation of teacher-directed classes, setting deadlines and allocating retraining where needed.

Two subject teachers administered tests at the beginning and end of units of work as motivational strategies. Administering pre-tests prior to units of work, such as in Science, may have served minor motivational purposes (Wentzel, 1992), but had inconsequential effects on learning as subsequent learning units were not modified according to test results. Gains in student learning could be calculated, but evaluation data was not integrated into learning programmes. Only limited differentiation occurred within units, such as mathematics, where optional exercises were provided for students wanting additional practice. Infrequent pupil conferencing occurred, although conferencing that was observed was often of high standard, particularly in mathematics. Authentic assessment occurred only in mathematics with student-teacher dialogue and specific teaching during test marking and during ordinary class periods. Conferencing is frequently recognised as a critical component of individualised learning in assessing learning needs and negotiating relevant goals (Wang and Stiles, 1976). Its absence, or paucity of use, had a detrimental effect on students' goals, inaccurately assessed learning tasks and motivational levels. Much of the monitoring that occurred was spontaneous in nature. It generally consisted of responding to student requests for assistance in interpreting instructions, and occasionally on matters of understanding.

Teachers did not consider modifying learning units according to different modes of learning, such as using audio tapes for slower readers, or different learning styles. (Awareness of these possibilities did arise in the teacher development sessions during cycle five). Teachers were cognizant of the fact that some students were struggling with the volume of reading in the written units and devised a few solutions: varied student activities, such as construction and drawing tasks, speech-making, and small exhibitions. Nevertheless, teacher-directed classes predominated. Devising student-controlled research projects were rare occurrences. Consequently, student learning never reached independent learning levels (Dressel and Thompson, 1973) for students

did not determine their own learning projects, course materials, or mode of learning. These findings may suggest that independent learning, as conceived in the literature, is an ideal that is unattainable in practice.

Adjustments for Teaching Individual Learning

Although discussed more fully below, the transition from a teacher to a facilitator of learning was difficult for some teachers. In particular, not being able to predict who would arrive at class proved problematic for monitoring work, collecting and distributing assignments. Making attendance mandatory, through teacher-directed classes, solved these organisational difficulties. Teachers were also concerned about the mundaneness of written units and felt their teaching skills could inject variety into the programme for students. This variety, along with increased amounts of class discussion, resulted in improving the pace of learning for some students, particularly slower readers. The increased pace satisfied teachers, although the depth of learning was known to be greater when students set their own pace. Finally, social needs of students were met by the imposition of set classes. Students had a sense of belonging to a group, particularly during discussions, that counteracted the occasional periods of isolation which are typical of individualised programmes (Johnson and Johnson, 1975).

Teacher-directed classes were therefore intuitively perceived by teachers as addressing inherent management problems in Achieve. Nevertheless, establishing teacher-directed classes caused a few teachers some disquiet (teacher interview responses) for the practice contradicted student freedom and choice, central tenets of the Achieve philosophy. Considerable time and attention was devoted to the contradiction by the principal, and was the content of some staff meeting discussions. Because the practice of teacher-directed classes solved several organisational difficulties, it was virtually impossible to rescind.

Compounding the problem was the practice of setting assignment deadlines. Although Achieve allowed for individual assignment negotiation, and indeed setting dates is an important aspect of contract writing (Zimmerman, Bandura and Martinez-Pons, 1992), the paradox lay in imposing the same deadline on all students. This practice not only removed student choice but also their ability to work at their own pace. Such a practice was opposed to individual learning. However, because it was one means of ensuring students kept up to date, teachers approved of the practice. Only one teacher could perceive the absolute contradiction, but was paralysed by the weight of opinion of the teaching community. Students were confused and irritated by the contradiction, as evident in the interviews.

Finally, the practice of retraining was a discipline and control procedure, as much as training in student planning. Students whose plan books were incomplete, missing, or were not signed weekly by parents, or not signed during a teaching period (suggesting that the student was absent), constituted offences warranting time in retraining. In actuality, this time was served during morning interval, and students either received additional tutoring in planning procedures or more traditional

retribution, depending on the offence. The procedure ensured that students planned regularly and understood the necessity of adhering to one's plan.

The effect of the above three impositions (teacher-directed classes, standard assignment deadlines, and retraining) was restricted choice for students, reduced freedom and a decrease in their sense of control in Achieve; all vital aspects of motivation and responsibilities in individualised learning programmes (Brophy, 1983; Csikszentmihalyi, Mihaly and Nakamura, 1989). Nevertheless, the positive outcome was the emergence of questioning by students. The student and classroom culture had sufficiently changed such that the asking of questions was socially acceptable. Students became more specific and accurate in the questions they posed. Teachers were influential in this process by becoming increasingly skilled in answering questions specifically, adjusting the language and complexity of response to particular students, and in directing student attention to important concepts. A few teachers and students also began to question the basis of the philosophy which they had hitherto taken for granted.

By the time of the fourth and fifth action research cycles, teachers were questioning the philosophy of Achieve. They realized that each of them had not the same, but quite different, interpretations and values within the programme. Inevitable discussions and interrogation of one another's interpretations led to increased understanding and ultimately, commitment to the programme. Moments of misunderstanding or contradiction are commonly identified as potential catalysts of change (Sarason, 1971).

As a result, the questioning and, indeed, the transition from teacher-controlled to student-centred learning led to a change in the teacher's role. Teachers quickly realized that they were no longer 'chalk and talk' teachers, but rather facilitators of learning (teacher interview responses). Imperceptibly, teachers learned to respond to students' individual requests and questions. They gradually realized that complete surrender of control was impossible, and that they needed to retain some management responsibilities such as monitoring work completion.

Rethinking the structure of Achieve

Supported self-study is critical in the success of individualised programmes. Corno (1992) argued the importance of providing initial structure and guidance for students and then a gradual relinquishing of control as students become sufficiently skilled to pursue their own topics. Such a view is supported by other authors such as Fleming (1974); Beckett, (1981); and Hammond and Collins (1991).

Corno's (1992) learning sequence was applied in the reverse order in Achieve. Students were expected to be independent and skilled learners from the outset, rather than being up-skilled and gradually given control over their own learning. Despite teachers' assumptions, study skills were not automatically acquired. When it became evident that students were not coping, teachers panicked and immediately imposed restrictions; a not infrequent occurrence in individualised programmes (Fleming,

1974; Davies, 1978; Daly and Robertson, 1980). This was not primarily the teachers' fault, for as writers like Fleming (1974); Beckett (1981); and Corno (1992) maintain, teacher in-service and development work is vital to successful implementation of individualised programmes. Because development opportunities were initially absent from the programme, difficulties arose.

From a whole-class perspective, teachers needed to change to responding to individual students. Albeit briefly, teachers learned to individualise instruction with students as they roved the classroom. Evertson's (1989) research revealed that management practices such as teachers circulating widely during seat-work to check students' understanding of the material, was critical for increasing learning time. The quality and depth of such teaching varied amongst teachers in Achieve. Again, authors such as Evertson (1989) argue the importance of assisting teachers with such critical skills. An initially predominant focus on students' needs rather than that of the teachers' has occurred in other individualised programmes. Talbert (1972:142-143), spoke of similar difficulties:

Implementing an individualised programme has frequently been difficult. Teachers have begun without first developing adequate skills in diagnosis, prescription, efficient record-keeping and conferencing. Further complications have arisen from teachers having to carry the burden of devising their own materials for the programme... Continuing in-service training is vitally important.

Talbert's (1972) conclusions could be construed as an accurate portrayal of the implementation of Achieve at WHS. Compounding the difficulties of implementing an individualised programme was inadequate conferencing. This resulted in few opportunities for encouraging long-term intrinsic motivation, negotiating individual goals, or working on individual learning styles. As Haddock (in Talbert and Frase, 1972:132) argued:

.. We must recognize that some children will need very brief contracts that can be completed quickly with a minimum of resource hunting while other children will be able to delay their reinforcement of completing a contract over a longer period of time and can be expected to use many of the resources of the school and community.

The need for individualised and frequent monitoring was an underlying theme throughout the study. However, the practice of individual conferencing was sporadic because the significance of conferencing was not fully appreciated by the teachers, and nor was time freely available for such tasks in the busy secondary school. Nevertheless, researchers, such as Veatch (1972), claim the importance of individualising teacher-pupil conferences in designing programmes of work appropriate to students' abilities, personalities and skills. However, teachers in Achieve required considerable time, reflection and critical discussion before they appreciated the significance and crucial importance of devising individualised educational plans. They initially believed that their job encompassed the writing of

a requisite number of 'set' (ie, targeted at the average learner) units which may at times provide students with a choice of topics. Teachers did not realize that continual modification and upgrading would be required, nor that differentiated levels of units would better suit learning needs. They consequently experienced dilemmas in transition from the former role of directing and controlling learning, to becoming a resource provider and facilitator of learning. These dilemmas resulted in contradictory practices, as intimated above, in set classes, fixed assignment deadlines, and failure to adjust units as a result of pre- and post- mastery test outcomes.

Teachers became frustrated with limited levels of student motivation. It took some time to realize their role in developing contract writing and in the provision of choice for students. As stated above, teachers expected students to make an immediate transition from being teacher-controlled to self-directed learners. The need to teach study and learning strategies, individual planning according to social learning preferences (alone or together with other learners), adjustment of time schedules according to concentration spans and preferences for single or multiple task preferences and skills in time management were not recognised. Many of these oversights could be attributed to organisational difficulties and to a gap between theory and practice.

Questioning the value of individualised learning

The experiences of WHS teachers makes it necessary to question the realistic nature of individualised learning for teachers whose training prepared them for whole class teaching. The reality of devising educational plans for individual students, given the inadequate resources in schools and limited teacher time and skill for such demands, is debatable. It may be more profitable to devote energy to diversified programmes, providing students with a wide variety of learning opportunities. Deliberate exposure to a range of learning styles and strategies, particularly in terms of learning modes (visual, aural, kinaesthetic, music), combined with a mixture of individual and group work may in fact be more beneficial for long term learning. Other writers such as Talbert and Frase (1972), and Thomas (1992) question the ultimate effectiveness of individualised programmes given the inherent practical difficulties.

Teachers, not students, are trained in learning. Although students recognise when they are exposed to new learning, have feelings of being overwhelmed by learning that is too challenging, or by learning that is insufficiently demanding, they often do not know the best way to approach a new subject matter. Teachers have experience of numerous students and become familiar with successful strategies and sequences from which students can learn more effectively. Careful guidance and training by teachers is essential if learners are to become independent. Left to their own devices, few students will make the transition to self-directed learning.

Individualised instruction does not mean the student works alone. It does not mean that the teacher relinquishes his (or her) responsibilities to a machine or to teaching materials. While the child works alone more than in traditional classrooms, the teacher has to diagnose progress more frequently and offer

him (her) as well as small groups or the entire class, supplemental instruction where there is a common need. Students need guidance and specially prepared materials to work at an appropriate pace for him (or her). (Blake and McPherson, 1972:49)

There is a need in all individualised programmes to concentrate on **how** to learn, not so much **what** to learn, particularly when concerned with instilling learning for life. In Achieve, students were given opportunities to choose **when** and **where** to learn, but little choice was given in the more important elements of **what** and **how** to learn. Consistent with the above argument, students might be provided with a range of opportunities to initially experiment with successfully proven options or strategies, before gradually being given choices in determining what and how to learn. Choice is only a realistic proposition when the student is equipped with the requisite capabilities to utilize available opportunities and alternatives (Davies, 1987).

An essential component of learning is learning how - students will only know their most effective and efficient learning styles and strategies when they have experienced a variety of these. It may be that the teaching and learning of these skills are the most critical components of individualised learning programmes or, indeed, in whole-class teaching.

Teachers need to be taught research and critical thinking skills before they can be expected to impart these skills to students. A parallel in this study was evident between the learning process of teachers in conducting Action Research, and that of the students in skills required in the individualised learning programme of Achieve. This concept is further explored in the following chapter.

Nevertheless, it is evident that teachers, like the students, learnt to be critical of the Achieve programme; an essential prerequisite for change. Only once an awareness of a problem or discordance between one's espoused and actioned theories is recognised, is change possible. Teachers became aware of the value of recorded and collected data, whether by observation, interview, survey or document analysis. Involvement of an outsider was essential for encouraging teachers to develop a reflective stance and discern contradictions inherent in their practices. The value gained from discussing ideas and alternative points of view resulted in feelings of ownership over the process and a belief in their own ability to conduct research. It was a similar experience for students who developed awareness of alternative perspectives on Achieve, the value of discussions, and developing confidence in their own ability to learn and organise themselves. They, like the teachers, needed skills in monitoring, reflection, questioning, and working with others. These skills were particularly required by teachers in order to build a community of commonality and consensus in presenting a less contradictory practice to students.

Learning alone is only one dimension of learning. Learning together with others was an aspect of the programme sorely missed by the teachers (teacher interview data). Despite their initial perceptions that students working together contradicted the philosophy of Achieve, their intuitive craft knowledge of learning and teaching was

another compelling factor in contributing towards the instigation of teacher-directed classes. They instinctively knew of the benefits of students working together. Students also missed opportunities to work with other students. Interview responses portrayed their desire to choose at times to work with others. The tension between the explicit philosophy of learning alone and the implicit philosophy of benefits of learning together grew as the study progressed. The discussion now turns to that theme.

LEARNING TOGETHER

Despite cooperative learning being cited as an integral component of Achieve in WHS's administration handbook, few examples of cooperative learning were observed. As depicted in the chapter on the *Five Cycles of Action Research in the Achieve Programme*, the teachers' understood definition of cooperative learning (as judged by informal conversation and action) was that of students learning alongside one another without fighting nor undue distraction. Teachers were apprehensive about the ease of students copying work and providing answers to friends when working together. For this reason, teachers tended to discourage widespread cooperative endeavours. Even low-level cooperation (Bennett and Dunne, 1991), such as equipment-sharing, was suppressed by teachers. They preferred students to work individually, and perhaps to indicate where equipment or resources were located or to repeat instructions and explanations; but not to work together.

When 'cooperative' discussion groups were established, they tended to be teacher-directed or controlled. Sustained group activity was not evident. This situation reflected not only teachers' ambivalence about the value of cooperative learning, but also their uncertainty about setting up, monitoring and evaluating such activity (despite relevant literature being shared with the participants). It could also be that the ideals posited in the literature are not possible to attain in qualitative studies of naturalistic settings. Teachers expected students to already have attained cooperative learning skills. When they discovered that students did not have cooperative, particularly collaborative learning skills, teachers were unsure of what particular skills were required and how to teach such skills, or whether in fact such skills needed to be taught. Although cycle five in the action research contained teacher development sessions on cooperative learning, the transfer of such skills to the classroom was not observed during the study of WHS.

The narrow conceptualisation of learning within the Achieve programme meant that cooperative learning was considered to be not relevant nor 'allowed'. Discussions during the final staff meeting however, alerted teachers to the possibility of questioning hitherto taken-for-granted assumptions about the programme, such that the following year may have seen the origins of some cooperative learning.

There was no doubt that students were in favour of having cooperative learning options. They were ardent about having the **choice** over whether to work together or alone, but liked the idea of occasional cooperative units. Again, their conception of cooperative learning differed from that of Johnson and Johnson (1975), and simply

incorporated the notions of 'being together with, helping and receiving help from your mates'; perhaps a closer definition to that promoted in the literature than that espoused by their teachers. Considerable attention to skills teaching was required nevertheless, such as those cited in the literature review of: Johnson and Johnson (1975); Guskey (1980); Pepitone (1985) and Bennett and Dunne (1991).

Students felt that cooperative learning resulted in more social and relaxed learning (student interview data). They felt less isolated in their learning and more supported by other students. It was often thought easier to ask questions of peers than of teachers. Although friends often simply gave the answers to a particular question, they just as frequently provided explanations, according to student interview respondents. A few students had several reservations about learning together nonetheless. They felt uneasy about the increased talk, distraction from the task and reduced concentration which frequently occurred while working alongside or with other students. Most students indicated they would like assistance with skill-building in countering such work-detracting behaviour. As no social programme was implemented, such help was not forthcoming during the duration of the study.

On a teacher-to-teacher level, the adults in the WHS school community also had to develop cooperative learning skills. The need to discuss issues, admit to misunderstandings, uncertainties, concerns, and share ideas or experiences of the programme with particular students, compelled the teachers to learn how to collaborate on a deeper level from that which had occurred in the past. Learning to freely discuss ideas without interrupting one another nor condemning others required tolerance and patience for a few staff members, despite the fact the small staff had taught together for some years. The dilemma between tolerating autonomy while striving for consistency as a teaching team required, on occasions, careful discussion and negotiation. Jointly requesting teacher development sessions promoted staff unity through the meeting of shared needs. Again, therefore, there were parallels between student developmental skills in Achieve and those of the teachers in teaching and researching the programme.

As teachers began to more fully realize the wider philosophy of Achieve, rather than the narrow conceptualisation of learning alone and at your own pace, they became aware of possible alternatives and different ways of viewing the programme. Towards the end of the study as a result of the teacher development sessions, increased reflection and more open and critical discussion, teachers realized there were more options in unit writing, presentation and the construction of learning opportunities for students. The provision of alternatives in the thinking and the practice of Achieve, epitomized the value of choice in the programme. Choice was a pervasive and complex value and indeed, emergent theme, in Achieve.

CHOICE

Student interviews consistently revealed students' valuing the element of choice in Achieve. They appreciated the perceived freedom and control over with whom they chose to work. The option of avoiding or restricting contact with certain teachers or

students created a more relaxed and harmonious student culture, as was frequently mentioned in teacher interview responses. The opportunity for choice served well the need of adolescents to have some control over their environment (Evans, 1991).

Students initially had control over their pace of learning. The flexibility in the programme reduced the effects of students falling behind as the result of absence from school. In the event of illness or holidays, students could work ahead or catch-up at home or at school once they returned. It was possible for students to advance quickly in preferred subjects. In mathematics, they were able to begin the next year's syllabus earlier or later than their respective year group, according to progress. For other subjects, early completion provided the option of additional topics in the preferred subject area, or the provision of greater time devoted to alternative subject requirements.

Students were able to determine the amount and nature of their homework as well as activities at school. The fact that many of them chose not to do homework was perceived by teachers as avoidance of responsibility. Ironically both teachers and the majority of parent respondents (as revealed in two parent surveys) believed students ought to do homework and indeed, far more than they were currently accomplishing. Students however, chose not to do it as homework was not highly valued. Social activities were chosen as more rewarding activities than academic work, as explicated above.

Despite students' first impressions, complete freedom of choice was not a part of Achieve. Planning the day's timetable required consideration of teacher and room availability, syllabus requirements, and adherence to the timetabling of non-negotiable elements of the curriculum such as physical education and school assemblies. Weekly subject balances were monitored by teachers. Preferences for working with particular friends further compounded their decision-making with students learning the art of compromise. Limitations in their own research, study and learning skills, along with teachers' emerging skills prevented students from pursuing unrestricted research topics. The syllabus and school day were not as different from the conventional programme as was initially anticipated. Teachers' minimal experience in individualising programmes resulted in limited flexibility in terms of horizontal or vertical extension for more able students and additional reinforcement for slower learners. In avoiding disliked teachers and subjects, students' weaker subjects deteriorated further.

Consequently, restrictions were imposed on student choice. Teachers set assignment deadlines to ensure a sense of urgency to tasks. Students were thus compelled to adhere, in some degree, to syllabus demands. Teacher-directed sessions guaranteed attendance and assured at least minimal student progress. Informal modifications could be made to student activity, such as the teacher reading brief passages to them or probing understanding by a student-teacher discussion.

As stated above, the provision of choice and a sense of control promotes intrinsic motivation and responsibility for one's own learning. It also develops awareness of

a locus of control in students. The provision of choice is particularly apt for adolescents who need a sense of control and decision-making in their personality development (Evans, 1991). The question remains, however, as to whether the choices provided in Achieve (where and when) are the critical choices in developing motivation in learning and responsibility for one's own learning. As proposed earlier, the questions of **what**, and particularly **how**, may in fact be the more important choices for students. The where and the when are useful choices providing that awareness of learning difficulties and needs are incorporated into learning programmes. If students are cognizant of their learning styles in particular subjects and their times of varying energy and concentration levels, they can plan their day accordingly. However, students in Achieve did not receive training in the areas of time management or learning styles and strategies on which to base such decisions. Although they were tested by the outside researcher with a *Study Skills and Learning Strategies Inventory*, and *Progressive Achievement Study Skills Tests*, the teachers did not incorporate the detailed individual evaluations into their programmes. Teachers appeared to either not understand the full significance of such information to the designing of individualised educational plans, or they were unable to follow through such teaching through inadequate time or teaching resources.

Students desired more choices than were offered. Choice is limited however, by available resources and skills. Potential solutions were present at WHS in the form of community resources, opportunities for self-directed research projects and greater choices within topics (such as students being able to designate the city for a large city study in Social Studies). Students could potentially select their topic on which to rehearse specific skills such as graphing. Greater teacher supervision and monitoring would be required, but as was revealed in chapter six, such skills were not evident in the practices that were observed.

Although students were influenced by the available choices, they did suggest in student interviews that choices over timing of units of work, a greater variety of topics within curriculum areas, (especially in designating their own research topics and the option of whether to work alone or together with other students), were sought after choices.

To choose or not to choose?

Is it realistic to offer choices in learning content and learning processes to students? There is a need to impart skills (integrated into particular subject areas), but perhaps the Achieve programme needed to begin in a more structured and student-guided fashion, with a gradual decline in structure as skills were evidently developed. Successful individualised programmes, such as the Keller and Dalton Plan, began with more structure than the Achieve programme. Structure lessened and flexibility increased as independent learning developed. A worthwhile conclusion may be that choice is relevant once skills are established, and the necessary resources and support are available. However, this scaffolding was not always present in Achieve and thus the illusion of choice eventually turned to disillusion by students and several staff members. Where choice is limited, it ought to be acknowledged and explicated, and

plans made to overcome such limitations if the philosophy is deemed important. Otherwise the contradictions in practice lead to the demise of motivation and ultimately, to less effective learning and teaching.

Choice implies the availability of options and the information from which a decision can be made. Only on this basis (of relevant knowledge, skills and opportunities) is choice a feasible option. Equipped with such knowledge and skills, one is able to freely select options, and thus exert a measure of control over one's situation. With Achieve, the provision, and at times absence, of choices embodied underlying issues of power and control. Control became a pervasive issue amongst students, students and teachers, teachers and teachers, and at times, between the school and parents. The discussion now turns to consider the emergent theme of control.

CONTROL

Why and how should control be shared with students?

Transferring control of learning from teachers to students is generally thought to increase student motivation, interest in, and responsibility for learning. All of these elements are thought necessary for the development of independent learners (Davies, 1978). Students can be given control in four dimensions of learning: **what** to learn, **when** they will learn, with **whom** they choose to learn and **how**. Each of these dimensions is considered in relation to Achieve and the extent to which control was shared with students. Sharing control has implications for teachers which need to be considered in individual learning programmes. Of related significance is school management and culture in the execution and devolution of control. These aspects are also discussed in the section below.

Four dimensions of control

In considering the control students have over **what** and **when** they will learn, two aspects of conscious action are encompassed:

1. acting in an effortful **goal-directed** manner and having the **belief** that one could perform particular tasks if called upon to do so, and
2. the actual possession of **intellectual skills and knowledge** that enable one to perform these tasks. (Evans, 1991:51)

Implied here is the importance of the individual having both the **skills** and **the belief in those skills** to exercise control in his or her learning. Control is a relative term in that control of some aspects of learning intimates considerable responsibility and skill, while other dimensions are almost meaningless, such as the pen colour used to respond to a question. The issue in Achieve was therefore twofold: the extent to which control was given to students, and secondly, whether the control was related to important aspects of learning within achievable capacities of the students.

According to Evans (1991), the most fundamental control in learning is the setting of

goals. Goals give purpose to one's undertaking, and imply control through decision making amongst various options.

Learning to set goals, to evaluate them, and to use them for planning is thus likely to be an important aspect of control over learning. (Evans, 1991:52)

Goal setting, in terms of deciding on particular tasks to be achieved during specific periods was the WHS teachers' intention for their students. As explicated earlier, the majority of students required substantial assistance to make the transition from merely selecting curriculum choices, to committing themselves to particular activities and tasks. The field notes were replete with incidents during Tutor time of teachers encouraging students to record more detail in their planning. (It was not until cycle four that students were encouraged to reflect on their accomplishments and work habits during a unit of work. Interestingly, this eventuality coincided with teachers' developing reflection in the action research process). Thus, teachers **fostered learning in setting goals**, but several school terms elapsed before most teachers were actively asking students to **evaluate** their goals. As a result, towards the end of the study students set more realistic goals and subsequently gained greater control over their learning. This development also coincided with teachers' evolving understanding of differentiated and individual learning needs.

Clearly, students **were** given control in Achieve, and in a fundamentally important area, namely in the setting of goals in planning their work. However, Skinner and Chapman (1984), cited in Evans (1991), argue that the selection of a particular goal rather than another is related to its perceived value and to the person's subjective belief in the likelihood of its attainment. Students in Achieve did not have substantial choice between particular goals they selected, rather only in their timing and occasionally, their order. The value of the goal was consequently an irrelevant factor for the students as they worked largely through prescribed units of work. Students were, therefore, not challenged to consider **why** they were selecting particular goals, and thus were deprived of developing a central purpose in learning.

Teachers were largely constrained by the national curriculum and school schemes. They were not at liberty to digress to any great extent from school prescriptions; and thus, this criticism is better directed at the wider education system, than the particular school. If choice is limited between options then it could be argued that there is minimal need to examine **why** the subject is learned. Educational policy decision-makers have made such decisions so that teachers and students are obliged to teach rather than question the reasons why such material is taught (action research experience later led WHS teachers to question the basis of some curriculum requirements). It may be meaningless to attempt to adopt individualised learning programmes with the ultimate goal of independent learners if the school is bound to conform to national curricula. Since senior students sit national examinations, teachers are obliged to teach material that is likely to be examined. In situations where students are judged to be 'below average' in achievement, such as at WHS, then teachers are more constrained to adhere to national prescriptions. Junior students are provided in advance with likely examination material in an attempt to

increase retention and understanding. Consequently, choice and control appear to be contrived.

Students may have gained greater value in learning had they perceived the connection between current learning and later educational or career opportunities. This connection did not seem to particularly worry students however, as the fourth round of interviews revealed that the majority of students considered current work to be generally worthy of study. Nevertheless, motivational levels appeared to be affected and were lower than teachers and parents desired. It would seem therefore, that control over what and why are ultimately limited in the current educational system, but that perhaps how and when are open to control. How can control be further developed in students?

Having acknowledged such restrictions, schools are still given discretion in **how** they deliver the curriculum. It is argued that teachers help students develop positive control beliefs and thus increase control over learning in three ways: helping them develop realistic goals, enhancing their effort through positive beliefs in their own ability, and developing openness to constructive feedback about their performance (Evans, 1991). In the Achieve programme students gradually developed skills in writing realistic goals. Although students received informal feedback during a class period and at the end of a unit of work, the absence of regular conferencing meant that detailed feedback in terms of performance and self-efficacy was neglected to the detriment of the formation of positive control beliefs, and ultimately the general motivational climate. For, although people have a broad range of goals including those concerned with relationships, enhancing a sense of achievement, and self-concept, the extent to which such goals are attained is dependent upon the strength of the belief in goal achievement (Evans, 1991).

Teachers generally had low aspirations for the students. They frequently spoke of the more able students departing for boarding school (eg. FN 0105; 0115; 0120) and the majority of student PAT (Achievement Tests) results generally being average to below average. Although teachers attempted to encourage and raise the aspirations of the more able students, their beliefs may have been subconsciously transmitted to students and resulted in self-fulfilling prophecies. Teachers did endeavour to celebrate the successes of students through recognition at school assemblies, but students often found these occasions embarrassing. The combination of norm-referenced test results, the nature of the community with its low aspirations for additional educational or employment opportunities, and the social culture of the students may have militated against promoting higher aspirations and greater self-efficacy.

Education though is about improvement and learning. Achieve was adopted at WHS for, amongst others, educational reasons. Teachers genuinely wished to raise the achievement levels of students and believed that an individualised programme would facilitate this objective. As cited above, their interpretation of an individualised programme related primarily to students working at their own pace. Given the constraints of the educational system as a whole, was it possible to share any real control with students?

To what extent was control shared with students in Achieve?

The most commonly shared aspect of control in learning is that of pace. When students can determine their own pace they are more likely to learn at a rate commensurate with their abilities. However, teachers and students invariably held different interpretations of what constituted an appropriate pace. Students generally take longer to complete a passage of work than teachers anticipate (Baird and Mitchell, 1986). This was mostly the case in Achieve, with a few students working somewhat faster than expected. Relevant to the concept of pace is efficiency and capacity. Where students worked slower than anticipated but demonstrated high 'on-task' behaviour and thorough learning, their pace was often tolerated. What concerned teachers was the propensity of students to waste time in seemingly idle chatter. It was the concern to counteract this behaviour that led teachers to impose deadlines. Paradoxically, the policy was applied to all students, rather than the few offenders. It must be acknowledged that teacher reflection and challenges to one another's practice resulted in some later relaxation of these measures.

Direction of learning is another aspect over which students can supposedly be given control. Self-directed learning frequently entails students deciding on their own topics of learning and indeed, the nature of the study. In Achieve, control over the direction of learning was rarely given. Although students were encouraged to select their own speech topics in English and pursue minor research projects, it was not until action research cycle five that two teachers were beginning to experiment with student-selected topics. In these studies, students were to select not only the topic but were also given greater liberty in determining the nature and direction of study. It is evident that a combination of teacher and student skills, and confidence growth is needed before teacher-directed learning evolves to individualised and eventually independent learning.

Modes of learning, learning styles and approaches are further means by which students can be given learning control. Control can only be gained once there is an understanding of the various approaches and appropriate circumstances for their use. Since these three aspects of learning were not explicitly considered by teachers, they were not alternative options for students.

Not all of the 'what' dimensions of: pace, direction, mode, style and approach are feasible in the early stages of the implementation of an individualised learning programme. With limited resources of time, skill and personnel, compromises clearly have to be made in the day-to-day realities of schools. It is not realistic to expect either students or teachers to automatically acquire such skills and responsibilities, and thus professional judgements are required as to when students are ready to develop the subsequent skills. As the students struggled with dimensions of pace, teachers were hesitant to devolve responsibility and control of other related learning skills.

Associated with pace is obviously the dimension of timing, or 'when'. Limited flexibility was given here, and could only be extended once students' acquired

adequate planning skills when there was follow-up support forthcoming from teachers and school-wide support with the provision of necessary resources: people, materials and in-service. Control over timing was limited. Providing students completed work **within** teachers' expectations, they had control over when they finished work. Although Achieve was introduced with the emphasis on choice, particularly when students chose to do particular subjects, teachers usurped control within a month of the programme beginning and required student attendance at particular classes during specified times. Teachers found it difficult adjusting to irregular attendance of some students and monitoring their work. The instigation of teacher-directed classes increased teacher control and reduced student control over when subjects were selected for study.

Students were given superficial control over with whom they chose to work. Although students could meet informally with friends and ensure they planned coinciding timetables and thus worked alongside preferred others, complications arose through teacher demands with compulsory classes.

Some students learned the art of compromise and studied their preferred subject alongside friends in another subject room. However, teachers discouraged the practice of studying particular subjects in a room other than that of the subject-teacher on the basis that the subject-qualified teacher was of greater assistance to the student. Students experienced learning differently however. Despite the probability of preferring the teacher of subjects the individual finds easier, students varied in their teacher and room preferences (see appendices for student interview results). Personality seemed to have a greater impact on preferences than attitudes towards subject knowledge. Students found different teachers more approachable and better able to explain material to them, whether or not they were the 'appropriate' subject teacher. Having control over rooms to work in and with whom to work, was central to student enjoyment in the programme. Once this control was limited for students and strengthened for teachers, the former became less satisfied with the programme.

The fundamental problem of Achieve was the expectation that students were equipped with the knowledge, skills and requisite attitudes for individualised learning from the outset of the programme. Achieve began with limited structure but, as it became clear that difficulties were surfacing, constraints began to be imposed on students. Rather than gradually relinquishing control as students became more skilled, teachers worked in reverse and began to impose more control. Most students had enjoyed the taste of control and thus some resented teachers exerting dominion again (refer to final student interview results). However, a few students were relieved to return the responsibility for their learning to teachers. This complex situation of control had implications for the teachers.

Implications for Teachers

The writer's reflection on the study identified seven skills required by teachers:

- * facilitation rather than direction of learning;
- * ability to let go;

- * tolerance of uncertainty and adaptability;
- * knowledge of skills necessary for individual learning;
- * vision;
- * belief in students' competence;
- * ability to act autonomously.

Each of these skills is now discussed.

In relinquishing control to students teachers were themselves required to learn new skills. Teachers needed to adjust from being directors of learning with whole classes to that of being facilitators of individual learners. Their concepts of themselves as teachers had to be surrendered, as they developed from transmitters of knowledge to resource providers and encouragers of learning. Their own research skills and various approaches to learning were extended in the development of units of work. Nonetheless, with limited in-service opportunities at the beginning of the programme and an urgent concern to have Achieve established, minimal time was devoted to teachers' needs. Staff discussions were focused on student needs, organisational and management issues; not their own capacities or philosophies.

Not until the urgent need to write units of work, establish routines and procedures had abated was attention able to be directed towards developmental and philosophical issues. It would be idealistic to suggest otherwise in the realities of hectic secondary school life. The delay in attending to teacher development needs, led to contradictory teacher practice - in terms of practice being incongruent with philosophy and of inconsistent patterns of behaviour amongst the teachers. Teachers assumed they all had the same and 'correct' understanding of Achieve's philosophy, but later discussions and interview responses indicated wide variance.

Letting go of former perceptions of themselves as teachers, their teaching role, and thus the control of learning, was necessary for individual learning to occur. A sense of detachment was required in allowing students to make more mistakes and discoveries in learning than in the past. Although teachers needed to perceive the 'teachable' moment in which to intervene, guide and monitor, students needed to be given psychological space and freedom in order for meaningful learning to occur. Such a culture evolved over time and was evident in more relaxed and harmonious student-teacher relationships, which were frequently mentioned in teacher and student interviews (refer to the action research cycles in chapter six). Part of this 'letting go' was accomplished through reflection during regular staff meeting discussions when teachers realized that certain attributes of students were common to several curriculum areas. Rather than thinking they were the only teacher who experienced learning or behavioural difficulties with a particular student, teachers came to realize that the student was the constant factor. These realizations resulted in greater teacher confidence and an ability to deal more objectively with the situation. Difficulties were occasionally evident. Clear support (emotional and professional) from other teachers, and distinctions made between student and teacher problems, enabled teachers to deal with issues more effectively. Discussions and teacher reflection were imperative in relinquishing control to students.

The ability to withstand uncertainty was another critical factor for teachers. Conventional teaching was dependent upon their control with classes being fully organised and relatively predictable prior to the lesson beginning - a contrast with Achieve where teachers would not know who to expect in their classes, nor what work the students would be encountering. This new situation required flexibility on the teachers' part and some confidence to admit they were not familiar with concepts from other disciplines. Nevertheless, successful teachers were able to distinguish particular skills and learning approaches that were common to several disciplines and used these strategies for explanation. Demonstration of effective strategies was also of meta-cognitive value to the students. Few teachers were able to explicitly describe such strategies however.

Tolerance of uncertainty extended to endurance of the period of apparent decline in student work output and standards as they adapted to a new learning approach and learned to organise themselves. Teacher pride in professional standards and concern for students slipping behind, meant that in actuality few of the teachers had the necessary tolerance to withstand the transition period. As initial teacher interviews revealed, teachers were unsure of the complete philosophy of Achieve and lacked confidence in the programme and indeed, their own ability to handle individualised learning. Their own perceived incompetence meant that their insecurity was threatened by apparent student failure to cope with Achieve. Tolerance of uncertainty was therefore jeopardised.

Compounding the problem of teacher insecurity, was the necessity for comprehension of the essential student skills for individual learning. Effective teachers required not only knowledge of the particular skills, but also competencies in **how** to effectively transmit these skills to the students. Some of the skills deduced from the outside researcher's reflection on the programme included:

- * the ability to adhere to a time frame;
 - * the setting of realistic goals;
 - * perseverance and;
 - * self-discipline (especially exercising volition in avoidance or reduction of distractions),
- aside from the more academic skills.

Two teachers were particularly conscientious at monitoring these identified skills during their tutor periods and subject teaching. Other teachers were less consistent in their approach and appeared not to understand the importance of monitoring them. It must be acknowledged however, that as a result of interview responses and subsequent staff discussions, teacher attention to these details improved during the fifth action research cycle.

Focusing of attention on individualised learning skills coincided with evolution of a vision for individual learning. During the action research cycles teachers met to discuss feedback reports and, as a result of considered reflection and critical discourse, teachers improved their understanding of Achieve, individualised learning and its implications. Improved understanding was beginning to be translated into

practice during the fourth and fifth action research cycles. With the improved vision, experimentation was occurring in a variety of ways such as with cooperative learning and individual research projects. Awareness of wider school issues, not only their own classroom concerns, began to emerge with teachers' developing discussion skills. The need for teacher development was one such example which was discussed and finally implemented during the fourth and fifth action research cycles. What impact did such awareness have on the school organisation and school culture?

Implications for school management and culture

Implementation of any educational innovation requires considerable resources (Morrish, 1976). Achieve was no exception and required a significant injection of resources. This encompassed financial assistance, time, secretarial support, and teacher development. Initially the greatest demands were in terms of teacher time in constructing units of work, much of which was done in their own time. Although they had units from the originating school on which to base subsequent units, the first few were largely trial and error from teaching notes. Familiarity with the writing process, sharing of professional expertise and creative ideas, and observations of student reaction to the units, later provided a closer match of resources to student need. Subsequent teacher development sessions focused primarily on unit construction, and resulted in greater variety and interest level in units available to students. Certain curriculum areas lent themselves to wider variation, which were popular choices of students' (such as Social Studies).

To facilitate unit design, school management dedicated staff meeting time to this topic the term prior to implementation of Achieve. Additional time was also made available to individual staff members during the fifth action research cycle for teachers to incorporate knowledge gained from the teacher development sessions. Increased ideas and options stimulated enthusiasm and boosted teacher confidence in unit design. Feedback from student interviews also provided teachers with additional ideas for unit content.

Administrative support for innovations is essential for new programmes to become established and ultimately integrated into school operations (Gross, Giacuinta and Bernstein, 1971). Achieve was incorporated into formerly established structures, but with additional meetings scheduled fortnightly. Initially meetings were timetabled more frequently, but teaching demands necessitated additional time for teacher preparation. Hierarchical structures supported the programme, with similar positions of responsibility being allocated to Achieve as to conventional programmes. Deans were still ultimately responsible for the welfare of students, although additional support was achieved through the 'tutor teacher' position. Tutor teachers were allocated a certain number of students from a range of classes, for whom they had pastoral and organisational responsibilities. School assemblies, sports events and school interchanges occurred as previously, with noticeable structural changes being only that of daily tutor group time.

The Principal made additional funds available for photocopying and library support

for student research assistance. He initially visited classrooms frequently for informal monitoring. Students readily responded to his assistance and guidance as he encouraged more detailed planning and challenging goal setting (eg. FN 0129; 4001). The Principal's presence is valuable in the implementation stage of innovations (Staessens, 1993), for teachers believe s/he is then conversant with the difficulties, struggles and efforts they are encountering. The principal was thus listened to in staff meetings as he was aware of the progress of Achieve throughout the school. Unfortunately later administrative demands resulted in irregular classroom visits and less familiarity with the programme.

The need for teacher development became more evident as the urgent demands of implementation decreased. Once teachers had addressed management needs of students, particularly in relation to monitoring, they were more disposed to deal with issues of learning, creative unit construction, and philosophy. Readiness for reflection and the role of action research played a critical part here, and is examined fully in chapter eight.

Teachers also needed to have experienced the programme for some time before they were able to develop commitment to it, and identify their own needs. Again, administrative support was readily available in organizing relevant consultants and advisers to lead the school-based in-service development. By the fourth action research cycle, the staff culture was such that consensual, rather than bureaucratic decision-making was the norm. Teachers were thus involved in suggesting developmental topics and later, preferential ranking for identification of highest priority themes. Such a strategy further developed commitment to the programme and the process of development itself. Subsequent school-based teacher development sessions were consequently intrinsically interesting for staff.

Pertinent here was the formation of a critical community amongst the staff. By this stage of the Achieve programme teachers were openly sharing and discussing their difficulties with Achieve (refer to final staff meeting discussions in *Five Cycles of Action Research in the Achieve Programme*) and beginning to question some of their own and the programme's assumptions. They had adopted (albeit limited in some cases) a degree of student monitoring, a willingness to reflect on the progress of their students, the programme and themselves, and indeed to modify the programme as a result. One teacher had even initiated his own minor research investigation into student homework behaviour. Conscious control had emerged.

How was control a central issue in Achieve?

The issue of control waxed and waned throughout the duration of the study. Initial perceptions were that control was virtually devolved to students and teachers. Difficulties with student management and pragmatic issues related to student monitoring in particular, resulted in teachers promptly seizing control of timetabling and learning choices of students. It was also shown above how teachers were restricted in the control they had over student learning and their own teaching with stipulated guidelines in the national curriculum and external examinations.

Control is only a guise when options are not freely available and, indeed, when the necessary skills and knowledge are absent. It can be argued therefore, that after this low period, control was increasingly gained by students and teachers. Teachers gradually acquired a deeper understanding of both the philosophical and experiential dimensions of the programme, as well as the requisite skills to organise learning in alternative ways. Equipped with such knowledge and competencies, they were able to exert greater control. This was seen in the teachers more freely sharing ideas, weaknesses and philosophies, and thus strengthening their sense of unity and professional understanding. With the resultant emotional and professional support teachers were willing to experiment and share new ideas. Understandings were clarified, such as the phenomenon of variable student concentration spans, and efficient learning periods during the day as discussed during the final staff meeting (refer to cycle five in chapter six). Improved understandings resulted in modifications in practice. Again, in the final staff meeting several examples occurred of teachers trialling new ideas with their students, for instance, the entertainment day and the surveying of homework. This shared understanding and practice resulted in **greater shared control** amongst the teachers. They were clearer in their expectations of the programme, of students and of their role as teachers. Deeper understanding allowed them to be more flexible in the programme and trial new ideas. Rather than Achieve having control over them creating uncertainty and insecurity in their teaching, teachers finally had control over Achieve.

On the surface students had lost control. A higher incidence of teacher-directed classes reduced the choices and control they had in determining their own timetables. Assignment deadlines also reduced their flexibility in determining their pace of learning. However, skills were gradually acquired over the duration of the study that enabled students to utilize one another's expertise more often (rather than only low level cooperation of sharing equipment, as cited in earlier phases of Achieve), ask more direct and specific questions of teachers in relation to their learning and thus gain the knowledge pertinent to their enquiry. They were familiar with the routines of Achieve; many students had even imposed their own routines with similar timetables each week. Nevertheless, they had gained a degree of control in knowing with which teachers and students they effectively interacted. Field notes contained examples of similar-type students working either together or alongside one another. Students perceived which rooms were more social and those which were more work-orientated so, depending on their mood and their preference for working or socializing, they were able to largely determine their work environment. Armed with such knowledge, they had greater control at the end of the study than at the beginning for they had sufficient competencies to largely control: the classroom environment, people with whom they worked closely, the type and depth of information sought from teachers and routines of work which suited them. Some of the interviewed students also realized their role in the action research process for their reflections and feedback influenced teacher behaviour and programme modifications.

Parents also slowly developed some control in Achieve. The plan books which were essentially designed for both student planning and communication between home and school, facilitated contact with both their children and with teachers. Parent survey

information indicated that the plan books became a vehicle for many parents to discuss the school day with their child. Some indication was also contained in the plan books of the nature of the child's activity during the day, interaction with teachers and occasional teacher remarks about their work habits or accomplishments.

As a result of the first parent survey, parent information mornings were organised by the staff. Parents were invited to view the programme in action, to meet with teachers and learn specifically of Achieve. Parents gained greater knowledge of the programme, and student activity. The use of plan books certainly enhanced school-home communication. However, there was still uncertainty over the quantity and frequency of homework expected from students. Although the majority of parents agreed in the Parent Survey that students ought to do **more** homework, there were conflicting expectations. Teachers were occasionally faced with the dilemma of endeavouring to encourage particular students to work harder and provide them with additional challenge and stimulation, while being thwarted by parents who thought the teachers were unduly pressurising the child. The balance of control between home and school was thus a delicate one.

Control by teachers was exerted in another dimension in Achieve with the action research approach. The degree of openness and willingness to respond to interview questions was at their discretion. Teachers were invited to preview and, if necessary, modify interview or survey questions directed at themselves, students and parents. Later, by the time of the fourth and fifth action research cycles, teachers responded to opportunities to **suggest and supply** interview questions for themselves and the students. At feedback discussion meetings teachers determined the extent of discussion on particular issues and whether or not they would adjust their teaching accordingly. As with students, teachers' control of the process grew with increasing awareness, reflection and skills in action research. This evolution is evident in the chapter on *Five Cycles of Action Research in the Achieve Programme*; and the significance of it is explicated in the following chapter. The degree to which teachers sought the views of students, parents and other teachers on Achieve was entirely at their command. Realisation of the value of this data grew with the duration of the study, coinciding with increased teacher reflection and initiation of their own small action research projects.

Naturally the extent of their reflection and indeed, application to practice, was governed by the teachers themselves. Nevertheless, the interviewer can provoke reflection by the posing of questions which cause discordance between already possessed knowledge and alternative perspectives. Respondents frequently continue to consider questions and information beyond the bounds of the interview schedule. Opportunities to discuss these ideas in greater depth became possible with a more relaxed staff culture and one which was more disposed to consider matters of a philosophical nature. The community at WHS had nevertheless, developed considerable understanding of the philosophy of Achieve and consequently improved its practice.

CONCLUSIONS

Understanding the philosophy of Achieve proved to be the connecting thread between the pervasive and integral nature of the other four emergent themes: learning alone, learning together, choice and control. Each of the emergent themes impinged on the others and the fluctuating forces connecting them ultimately led to the transformation of understanding and practice in Achieve. Once teachers came to realize the problematic nature of the philosophy in that each of their understandings differed, as consequently did their practice, they discerned that there were alternative ways of viewing the programme. With the existence of alternative views came the possibility of different and improved ways of operating. At this point, teachers were able to critically discuss the different components of the programme, particularly what they understood to be implied by learning alone and together. As a result, investigation of actual practice (such as the incidence of homework completion), varying teaching and learning methods, and the opportunity for experimentation was possible. What was formerly taken-for-granted was now perceived as open to change.

A close link was thus forged between the content (substantive nature) and the developmental process (action research) of the programme. The two components (content and process) were integrated throughout the study and indeed had a symbiotic relationship with each other. Having considered therefore, the emergent themes in relation to the content of the programme, it is pertinent to now reflect on the process responsible for the transformation of teacher and student understanding. This concept is the subject of the next chapter, *Towards a readiness theory of action research*.

CHAPTER EIGHT

TOWARDS A READINESS THEORY OF ACTION RESEARCH

INTRODUCTION

According to Elliott (1981:1), action research is "the study of a social situation with a view to improving the quality of action within it." Action research is not an imposition from the outside but, is rather, a means of critical support. It is:

intended to support teachers and groups of teachers in coping with the challenges, problems of practice and carrying through innovations in a reflective way. (Altrichter, Posch and Somekh, 1993:4)

The central focus of action research, therefore, is on two concerns: the increase of practitioner knowledge and understanding, and improvement in practice. Both processes are interrelated and influenced by the other. Knowledge is constructed by each individual as a result of a process of reflection through action, and through in-depth discussion with others. While there is an essential individual component, there is also a simultaneous community function. It is only by developing a critical awareness, both individually and as a group, that participants can discern deeper insights into their own activities and wider social or political implications.

Development of the necessary reflection, discourse and critical community for action research is, however, complex and problematic. This chapter provides a reflection on, and challenge to, various processes and procedures of action research. The discussion is divided into two sections. The first section examines three fundamental features of action research:

- * various **assumptions** made in the action research literature;
- * important, but at times conflicting, **principles** and;
- * a number of unresolved **issues** inherent in action research.

The second section moves towards a theory of readiness for action research. It explicates a **rationale** for the concept of readiness and provides a **framework** for its implementation. Finally, **dilemmas** are proposed and challenges suggested for **future research**.

SECTION ONE

ASSUMPTIONS MADE IN THE ACTION RESEARCH LITERATURE

Skills and pace of learning vary from teacher to teacher. To expect *all teachers to be intrinsically interested in action research* is unrealistic. Nevertheless, some researchers (such as Kemmis and Di Chiro (1987); Kemmis (1989); and McTaggart (1991) maintain that 'true action research' can only occur in groups (critical communities). Community action is argued to be necessary in order to emancipate people from constraints of irrationality, injustice and oppression. Implied is the

expectation of certain competencies of teachers to not only discern injustices, irrationality and oppression but also to have the skills to deal with such issues. Although the action research process develops skills in research and emancipatory behaviour, minimal competencies in research and interpersonal skills are required. When pre-service teacher education neglects the development of teachers' research skills, it is uncertain from where such skills might be initially acquired. Moreover, staff politics are such that the very constraints which action research endeavours to overcome may, in fact, operate within and suppress the formation of a critical base community.

While some individual teachers may improve their practice, become empowered and even transform themselves or their teaching, not all do. (Rogers, Noblit and Ferrell, 1990:181)

It may be that accepting degrees of involvement by members of a group could overcome the reality that some teachers are either not interested, or not capable of, transforming themselves or their teaching. However, Elliott (1979) indicated that undercurrents amongst a staff itself can make it impossible for any individual or group within a school to initiate or sustain action research. Attention to group dynamics and school culture may be required.

A fundamental aspect of group dynamics may be that identified by Kyle and Hovda (1987:83), who argue that:

The approach we advocate presumes motivation, interest and self-direction on the part of participants, a presumption not always proven to be accurate.

As with the students in Achieve, teachers at WHS demonstrated variable degrees of interest in action research and in programme development. However, interest in the action research programme, with one exception, grew throughout the WHS study along with teachers' growing understanding of their practices. Teachers at WHS appeared to need research skills such as record keeping and data collecting; skills which were not anticipated by the teachers at the outset of the innovation. Teachers' need for skill development mirrored that of the students. However, development could not occur within the teachers until their evolving reflection revealed the need to change. Like the students, teachers seemed to need exposure to a range of experiences before developing in self-direction and independence. Change leads to insecurity during a period of de-skilling and re-skilling, which requires considerable motivation and self-confidence (Morrish, 1976). When the status quo is comfortable, there can be an insufficient catalyst for change. Compounding the situation is the realisation that change often generates unanticipated consequences. It was only when these changes became the subject of reflection that real improvements in understanding and practice could occur.

Nevertheless, assumptions are made in the action research literature that teachers want to improve their teaching, that they have the skills to do so, and that they are able to overcome the common constraints of time, skills, professional support, interest

and motivation (McKernan, 1991).

The evidence of the current study questions these assumptions. At the heart of the assumptions is that teachers *want and are able to reflect*, the essential basis of action research (Kemmis, 1989; Whitehead, 1993). There are a number of related assumptions:

- 1) that teachers are intrinsically interested in action research;
- 2) that teachers want to improve their teaching and that they have the skills to do so;
- 3) that teachers are able to overcome the common constraints (McKernan, 1991) of time, skills, professional support, interest and motivation.

None of these assumptions was initially recognised at WHS. Interest in research initially related to the outside researcher's findings. The first feedback report session indicated that deliberation on the philosophy of Achieve was a new experience for many staff. It was only when their views were shown to differ from those of other staff members did questions arise as to the purpose and nature of Achieve (refer to Cycle One in chapter six). Teacher interviews (refer to Cycles 1-5 and Appendix I), intimated that some teachers were satisfied with their present teaching techniques and perceived minimal reason to change. This belief was demonstrated by the practice of teacher-directed classes. Finally, the influence of the professional development sessions in Cycles four and five (chapter six) contrasted with teachers' formerly slower progress in reflection, and indicated the need for additional assistance if teachers are to overcome common constraints.

The discussion turns to address these assumptions; firstly that of reflection.

Assumptions about reflection

Although reflection is a central theme in the *Review of the Related Literature*, a distillation of key principles and problematic issues is pertinent to this discussion. It is necessary, however, to define reflection before considering its complexities and demands on professionals. Elliott (1988:50) provides a comprehensive definition:

Reflective practice implies reflexivity: self-awareness. But such an awareness brings with it insights into the ways in which the self in action is shaped and constrained by institutional structures... Reflective practice necessarily implies both self-critique and institutional critique.

Reflection is simultaneously an individual and a collective activity. For the *individual*, tacit knowing-*in*-action derives from accumulated practical knowledge under simple or routine circumstances. The knowing-*in*-practice tends to become increasingly tacit, spontaneous and automatic (Schon, 1983). With greater experience the professional, or teacher in this instance, may overlook the unique features of the particular case. It is only through reflection that the teacher can surface and criticize the tacit understandings that have grown up around the repetitive experiences of a specialized practice. In the everyday matters of work reliance on routines facilitates efficiency but since practical situations are potentially unstable, the professional's

knowledge-*in*-action (acquired as a result of past experiences of uniformities in problems, explanations and solutions) can never provide a complete guide to future behaviour. Reflection-*in*-action commences when practitioners realize the complexity of certain situations that cannot be coped with by routine, and thus reflect on their practices while in action. Only then, can sense be made of the situations of uncertainty or uniqueness which she or he may allow him or herself to experience. It becomes necessary to formulate knowledge explicitly and verbally, resulting in reflection-*on*-action. The latter retrospective activity requires distance from the action for some time, in order to facilitate reflection.

Reflection improves our ability to analyze and reorganise knowledge: consciously reflecting on action slows it down and disturbs our smoothly running routines, but it also facilitates careful analysis and allows us to plan changes. (Altrichter, Posch and Somekh, 1993:206)

It is through reflection-*on*-action that the individual's stock of professional knowledge is extended and enriched (Elliott, 1985). What appears to be a new balanced state already contains within itself the potential for the new tension that will enable it to continue evolving. The focus of the exercise is to empower the professional to externalise the intuitive, tacit understanding that underpins her practice and to share the values that form and inform her practice (McNiff, 1993). In this way, reflection is action-oriented and historically-embedded. It is a *social* process, being a combination of thought and action made visible and communicated to others (McTaggart, 1991).

Reflection is demanding. Despite claims by writers such as Kyle and Hovda (1987), not all teachers at WHS were ready for reflective thought or research. Indeed, as Elliott (1991) argues, pedagogical change in teachers is dependent on their capacities for reflection. Where change is minimal, reflection is apparently limited. For example, the chapter on the *Five Cycles of Action Research in the Achieve Programme* portrayed the considerable periods of time and apparent delays between the initial identification of a general problem and the activation of resources to deal with the issue at WHS; suggesting limited reflection. In contrast, considerable pedagogical activity occurred in the fifth cycle which signified deeper reflective capacities on the part of the teachers.

Teachers initially assumed that other people had similar experiences of the Achieve programme to their own and were thus surprised at feedback report times to discover the diversity of views. The first round of teacher interviews at WHS revealed that teachers had not considered the fundamental philosophy and basis of Achieve. Indeed, it became apparent that consideration of the meanings behind Achieve, namely those related to individual and cooperative learning, choices, motivation and control, required explication through the posing of critical interview questions before reflective thought was aroused. Responses to these questions subsequently stimulated discussion, discordance and clarification of views. The existence of varying and alternative points of view, as recorded in the interview responses and in the elicited discussion, aroused interest in others' perspectives and awareness of discrepancies

between their own experiences and those of others.

Only after several rounds of interviews did teachers begin to question the basis of Achieve, their role and alternative ways of operating. Awareness of the contradictions within their former taken-for-granted assumptions led some teachers to realize that there were different ways to view the basis (philosophy) of Achieve and a variety of means of implementing this philosophy in practice. Such a realization led them to think about alternative means of practice, the art of teaching, and justification for their own practices; thus beginning the process of reflection.

Although reflection is deemed to be critical to the development of improved understandings, practices and effective action research, minimal attention seems to be given to explaining how to stimulate and develop such reflection. It seems to be assumed in the action research literature (such as Carr and Kemmis, 1983; Winter, 1987; Elliott, 1991; Adelman, 1993; Whitehead, 1993) that teachers are able to, wish to and do reflect on their classroom activities. These authors tended to work with teachers who had some experience of action research and recent educational theory. Whether experience and exposure to a variety of educational ideas and theories were critical factors, the influence of critical school communities, the apparent motivation and interest in educational issues (since many of the above authors' participants were graduate students), or the geographical location, a disparate situation was found at WHS. Teachers progressed at different rates and degrees in reflective practice; as was indicated in the *Emergent Themes* chapter. Numerous examples revealed the lack of teacher awareness of some embedded issues, such as the contradiction of imposing deadlines in a programme promulgating students learning at their own pace; while other teachers were already investigating action research projects of their own (such as the homework issue).

The process of reflection was stimulated initially by *observational studies and interviews*. Walker (1986) states that the mere presence of an observer in the room compels participants to become more conscious of their activities and reasons for particular ways of behaving. At WHS, having another adult in the classroom, particularly one also involved in the educational profession, created conditions for heightened self-awareness and subsequent reflection. Particularly during the early stages of observation, teachers frequently wandered over to the outside researcher and provided commentary on classroom occurrences, various students or the programme itself, signifying early stages of reflection. Questions were occasionally asked and teachers made additional comments in relation to previous interviews or recent thoughts. In explaining classroom procedures, teachers often transformed formerly implicit rationale into explicit understandings. Without a person from 'the outside', such reflection would probably not have occurred. As Kelly (1985) and Elliott (1992) observed, it frequently requires the involvement and stimulation of an outside researcher to create awareness in teachers that a problem even exists. The researcher's *presence* thus appeared to stimulate the *beginning* of teacher reflection.

The *process* of reflection was further stimulated by the researcher asking *particular* questions in interview situations. Walker (1986) argues that it is common for an

interviewee to keep rethinking lines of thought that arise within an interview. Interview questions are therefore powerful tools for change, sometimes more powerful than recommendations or conclusions. This prolonged thinking was further stimulated in discussion sessions arising from the feedback reports. As the interview schedules continued teachers became more conscious of their own thought processes (more metacognitive), and developed a greater awareness of their self-reflective capacities.

Although reflection is developed through the process of action research, its stimulation in a community not formerly disposed to reflection seems unlikely to have occurred to the same depth without the influence of an outsider. (Such a finding is similar to Elliott's (1991) experience in the Humanities Curriculum Project). The difficulty is that without an outsider, practitioners may not look beyond their own practice to alternative practices, thus tending to be conservative (McFee, 1993). As was seen during the action research cycles (depicted in the chapter on *Five Cycles of Action Research in the Achieve Programme*), teachers required the posing of thought-provoking interview questions and the discussion of collated results to discern that views were not uniform and that alternative perspectives existed.

It is only in articulation that the teacher becomes fully aware of the existence of what has been tacitly there as theory and is then in a position to reflect on their new uncovered theory. (McCutcheon and Jung, 1990:145)

The process of reflection seems to be a complex and slowly evolving one. Communication processes require refinement in procedure as well as in intent. Open and free discourse appears to be the ideal (Kemmis, 1989), but the realities can be somewhat different (Elliott, 1991). It would seem from contemplation of the literature and the WHS study, that a multiple-strategy approach may be needed with attention to interpersonal interactions, the school culture (particularly of acceptance and tolerance of alternative points of view), and specific research skills. In schools where such conditions approach the ideal situation, action research of a fairly advanced kind can be conducted by participants. In schools where conditions are not ideal, then considerable 'groundwork' or 'readiness' exercises and phases may be beneficial.

Particular strategies could possibly be required in school communities with minimal reflective capacities, such as conscious opportunities to debate programme philosophies. As reported at WHS, greater attention to developing a reflective disposition may be necessary before expecting staff to embark on their own independent action research studies. As with the students at WHS, teachers appeared to need gradual development of skills prior to their utilisation. That is, teachers benefitted from the involvement of an outside researcher and participation in data collecting and analysis, before conducting their own research. For as Kemmis (1989:16) argues:

Theorising and practising are separated in the larger social framework by the division of labour and differentiation of function in the institutional structures

of contemporary schooling. There are people whose primary tasks are understood to be theorising (such as academic educational researchers) and others (teachers) whose primary tasks are practice.

Each dimension, that is teaching and research, has developed specialist expertise. If teachers are to be expert, or at least rigorous, researchers then such skill development will take considerable time and learning. Exposure to, and involvement in, action research conducted with a person (or persons) of greater experience may be beneficial in the early stages. Despite the insider and outsider relationship being potentially problematic (such as McNiff, 1993; Whitehead, 1993), there would still appear to be a need for preliminary association.

Although it could be argued that reflection can only be developed by involvement in conducting one's own research, that is, in tandem with research skill development, reflection on action normally requires some distancing from the situation (Altrichter, Posch and Somekh, 1993). The involvement of an outsider can allow practitioners to participate at a level at which they feel comfortable and in control, but not overwhelmed by the seemingly enormous demands of the action research task in conjunction with their teaching obligations. Such conditions (reduced workload) could be more conducive to the incidence and growth of reflection. However, as argued by Schon (1983), the depth of reflection is dependent on the skill of the practitioner. Reflection is enhanced by the incongruity of observations and situational factors with prior experiences. Thus, once practitioners become practised in the art of reflection, reflexivity and dialectical discourse, they need motivating to perform at a more challenging stage. In action research, this would imply increasingly greater responsibility for the data collecting, analysis and translation of theory into practice. Naturally, such development and adaptation to specific tasks and approaches would depend on a process of negotiation.

As with the Achieve programme itself, where development of the learner from individual to independent learning required skilful monitoring, tutoring and development of skills in self-direction and self-responsibility, so too did the development of the teacher as an action researcher. Again, like the learner, whose needs and developmental progress vary at individual rates, so also does the action research experience of each individual teacher and school culture. The commencement point of action research subsequently varies from school to school. It would seem, therefore, that a different emphasis on particular skills, action research principles and research strategies may be required in schools of limited research experience and collective reflective capacity, compared with schools of more extensive professional expertise. Given appropriate facilitation and skill development in situations of rapport and trust, the outsider may assist the teacher action researcher to progress to a point of participant independence.

Pace of learning was a critical concept for students in the Achieve programme. It is also a relevant concept for action research. As explicated earlier, the outside researcher collected initial data and presented key findings from interviews on several occasions before participants acted upon them. Action research can accommodate

slower reflection when it is a negotiated process between outsider and insiders. The process is critical, but it is reliant on staff readiness and preparedness to discuss issues at length. However, open communication and a reasonable level of discourse was an evolutionary process, dependent on the development of reflective capacities of each individual as well as the group as a whole. Reflection cannot be forced or compelled. Its development seems to be an outcome of both immersion and emersion. This process forms part of the concept of readiness for action research. Thus, development of understanding over time, of both content and levels of relationship in action research were important at WHS. As teachers' understanding of the Achieve philosophy grew, so did their ability and willingness to share ideas, misunderstandings, experiments, problems and investigations. It would seem that if action research is to be embedded in a school culture it needs time to evolve slowly and at a pace determined by the participants themselves. This process is particularly important if participant ownership and control is to be developed.

The means of developing understanding and reflection is as important as the pace of development itself. The current study gained particular success with teachers in oral discussions. This means of communication was a practical one, in that it conformed to the school's administrative structure and was compatible with its professional culture. These are important pragmatic considerations according to Altrichter, Posch and Somekh (1993). Teachers were accustomed to regular administrative meetings, so that meetings focused on Achieve were conducive to their school culture.

Although authors such as Ebbutt (1985), Somekh (1989) and Winter (1989) argue that writing by teachers (such as journals and diaries) is an essential dimension of action research, the experience in the WHS study suggests that a prerequisite phase may be necessary. Reflection and critical thinking were best developed in teachers, certainly initially, during oral discussion. The oral tradition of school teaching may be an alternative vehicle for stimulating reflective thought. Teachers spend considerably greater proportions of their time in oral interactions than in solitary writing. The realities of competing demands on teacher time, in addition to demands of implementation of an innovative programme, meant additional writing would not have been feasible and, indeed, may have been counterproductive in stimulating interest in research. Action research is contextually and situationally based and therefore of limited generalisability for other schools. The crucial audience for WHS ideas was its own school community, who valued the immediacy of discussion. Listening to other teachers' ideas either verified or challenged their own, and thus stimulated reflective thought. Not only was discourse developed but also a sense of unity.

Discussions developed a sense of commonality which was different from the conventional isolation of single-cell classroom teaching. Such support and development of commitment is an essential prerequisite for action research (Winter, 1987; McTaggart, 1991). Oral discussion thus served a dual purpose in developing a sense of community, critical discourse and shared understandings.

Valid educational knowledge, a 'theory of practice' comes out of *collective* critical reflection on practice. (McTaggart, 1991:15)

It would seem from WHS and in McTaggart's (1991) experience, that developing new understandings (theories) and informing social practice requires a commitment to collective reflection among and with those whom research is intended to help. Developing such a commitment can be facilitated by critical discussion and the support of other people also questioning current practices.

The rehearsal and questioning of contradictory problems and ideas (particularly in a discourse situation) forms a reflexive practice. Winter (1989) explains reflexivity as a questioning process, as a way of appraising a statement and generating possible alternatives to counteract taken-for-granted interpretations. Reflexivity relates to the art of dialectics - the art of asking questions and seeking truth. The person who knows how to ask questions is able to persist in her questioning, which involves being able to preserve her orientation towards openness (Larter, 1989). Internal contradictions can then become evident. In this way practice can be problematised. Once viewed as a problem, with various alternative perspectives, the likelihood of change and improvement in practice is increased. The tension of dialectics between theory and practice creates a dynamic tension between the acting and reflecting moments of the action research cycle (Larter, 1989).

However, it cannot be assumed that participants are proficient at asking questions, and interested in posing questions, from the outset of an action research study. Although questioning was integral to both the learning programme of Achieve and the action research process at WHS, students and teachers alike required development work on the art of questioning. The skill was gradually acquired with concerted effort and time, but conditions conducive to questioning needed to be created. Students had to realize that asking questions was a normal part of learning and not an admission of failure. Teachers also learned that the programme was not immutable and could be altered to suit their circumstances. A disposition towards the possibility of change is a critical learning phase in the action research process, for once participants realize the temporary and situational basis of knowledge, they are more likely to generate their own understandings. An appreciation of every person's point of view is taken as a contribution to the resources for understanding. Such a developing discourse and community was evident in the staff meeting of the fifth action research cycle.

Dilemma analysis is another means of referring to this reflexive activity (McKernan, 1991). Contradictions form the basis of dilemma analysis. Dilemma analysis emphasises the systematic complexity of situations within which those concerned have to adopt a strategy. Discerning appropriate strategies is problematic however, for situations are characterised by ambiguities, problems and contradictions. Members within institutions have conflicting interests. Dialectic discourse is one means of discerning the contradictions.

The art of dialectics implies objectivity, however. Objectivity in this sense presupposes an exploratory stance, an awareness of one's own value biases, a willingness to make them explicit and an open attitude towards the evidence. This process can only occur where there is a free flow of information amongst participants,

within a mutually agreed ethical framework (Elliott, 1978). Again, this process is a gradually developed one; not one to be taken for granted. Participants are only free to consider information objectively when they are task rather than emotionally-involved in an innovation. The emotional and physical energy demanded in the early stages of innovation implementation, as teachers de-skill and gradually re-skill with changed competencies, suggest that participants will be initially emotionally rather than task-involved. Reactions will therefore be more subjective than objective. Only experience and growing confidence in the new programme can lead to greater task-involvement.

At WHS teachers' reflective capacities thus evolved from being self-centred, believing that all participants viewed the programme from a similar perspective; to a more detached and objective stance where they could accommodate a diversity of views. Having a range of alternative perspectives enabled the teachers to view the programme as being changeable. It was, therefore, seen as feasible and relevant for the teachers to collect and analyze data, reflect on and discuss it in an evolved culture of both support and debate. With a history of discourse (at the feedback report discussion meetings), the critical community had evolved to one of reflexivity, dialectical debate and formulation of action plans. The WHS teaching community was, after a period of eighteen months, at a stage of readiness for action research independent of an outside researcher.

Thus, having considered the first assumption related to teacher's disposition towards reflection, the discussion now turns to examine the degree of interest and skill teachers have for improving their teaching.

What interest and skills do teachers have for improvement of learning and teaching?

In the early stages of Achieve teachers were too engrossed in implementing the new innovation, particularly in constructing essential resources and units of work, to be able to become sufficiently detached to view the programme as a whole. Teachers are often more interested in personal, classroom-specific problems (Kelly, 1985; Johnston, 1993), with a major focus on teaching, rather than researching a programme. Compounding the difficulties at WHS were teachers' insufficiently developed skills in reflection and research. Staff meetings revealed an absence of data recording. Few meeting minutes were taken and it became apparent that data gathering techniques would have to be modelled for teachers.

Only when procedures are systematically grounded in justifiable and coherent principles, is there reason for thinking that one's conclusions are more than the result of personalities, emotions or expediency (Winter, 1989). Winter argued that action researchers need to question and test opinions, beliefs, assumptions and ideologies, so that eventually the understandings and practices are more securely based (more valid) than at the outset of the study. The WHS school community needed to have such procedures modelled for them. Even involvement in research interviews was a new experience for teachers and students alike. Parents' appreciation of having their views sought through questionnaire indicated the novelty of involvement in

research. Data analysis and application to practice were apparently skills of the future to this school community.

The value of research gradually became discernable to teachers as successive feedback reports detailed their own and student views, and summarised patterns of observed behaviour. Research gradually became interesting and relevant - it involved their everyday teaching and learning lives, and it was written in the accessible vernacular, not esoteric and abstract vocabulary that they associated with research. The relevance and usefulness of research seemed to be a surprising discovery. The WHS school community, therefore, had to be involved in and experience a research study before they could perceive the value and inherent usefulness of research. To have expected this community to immediately embark on their own action research project would have been unrealistic.

In sharing information in dialogue and discourse participants risk having to change former assumptions. When formerly implicit ideas are verbalised their inconsistencies become apparent, making the revealer vulnerable to criticism. Rogers, Noblet and Ferrell (1990) suggest that the revelation of inconsistencies requires one to have the ability to read and decode taken-for-granted assumptions, and to negotiate meanings that are attached to events and purposes of social practices. These skills were not manifested in the early stages of the action research at WHS. Skill development and evolution of the school culture were required. A culture of trust and support is an essential prerequisite for open and frank discussion (Kyle and Hovda, 1987).

Encouraging participation and collaborative relationships, therefore, requires equality and democracy amongst practitioners as one's subjectivity is challenged (Winter, 1989). Ideal circumstances for such discussion rarely exist in reality. As portrayed in the chapter on the *Five Cycles of Action Research in the Achieve Programme*, even amidst a staff where other members are well known, the essential action research culture of concurrent support and challenge takes time to build. It was only when teachers were convinced of the value of research that they became interested in it. Interest seemed to be a precursor to skill development, for once the value of research was assured, then teachers were motivated to collect data for themselves. Thus, in a school community having no former experience of action research, initial interest and skills in investigating their own learning and teaching were not apparent. Only after an eighteen month study did teachers begin to initiate systematic data collecting in order to improve learning and teaching programmes.

CONFLICTING PRINCIPLES OF ACTION RESEARCH

As McTaggart and Singh (1986) indicate, just as action research seeks to problematise values and action in practices it seeks to improve, action research practice itself is called into question. It is reformulated through critical reflection on the action research practice, its effects and the situation in which change is sought. Through questioning the basis of reflection, inherent interest and skills in action research in this current study, several principles of action research were found to be problematic. Although each of the principles discussed in the methodology chapters was important

in the study, at times they seemed to be in conflict. Critical principles of responsiveness, importance of context, rigour and accuracy of data, collaboration, autonomy and control are shown, in different combinations, to be in a state of dynamic tension.

Dilemma between demands of context and accuracy

Two pivotal principles of action research are those of responsiveness and cognisance of context. Altrichter, Posch and Somekh (1993) urge responsiveness to the context by researchers to the extent that the context *dictates* the methodology and process of action research. At times this can be at the expense of accuracy of data collecting and research rigour. For example, it may be inappropriate to record verbatim comments during a heated discussion between participants, and yet this data may constitute valuable fieldnotes. Similarly, at times it is necessary to disguise the identity of particular respondents when presenting collated interview data, especially when minority or unpopular views are expressed. Finally, administering particular tests or surveys may be beneficial for triangulation, especially in supplementing qualitative with quantitative data; but the school culture may not appreciate such intrusions on time. Demanding data that is not sensitive to the group's culture threatens the validity of the research in any event. Nevertheless, action research demands rigorous and systematic data collecting to ensure that it is reliable, valid and authentic research.

Is the outsider's role to enforce research rigour on teachers?

The outsider's role is to provide support and not to take responsibility and control over the direction and duration of the project. (Altrichter, Posch and Somekh, 1993:6)

Such a view creates a dilemma for outside researchers. Outsiders have the luxury of time and distance to reflect, but they cannot 'force' insiders to devise action plans. They can collect data without the constraints of political forces or situational roles which inevitably limit that of insiders, and probably more opportunity for reading relevant research literature. Nevertheless, given responsiveness to the context and a transfer of control to the insiders, the outsider is prevented from actioning what she believes might be changed. The only action available is indirect, through the asking of 'awkward' questions in teacher and student interviews, and reporting back the 'gaps' or contradictions. Participants must take the next step of acting on the data. At times however, as seen at WHS, participants may require assistance with the necessary reflective, collaborative and meeting skills in order to act in an appropriate action research manner. Tacit knowledge has to be explicated and may arise through introspection (such as diaries), conversations and being interviewed, the ordering of conscious knowledge such as graphic representations, and reading about one's own actions (Altrichter, Posch and Somekh, 1993). This is a slowly evolving process and can delay much needed action. Teachers generally want expediency rather than prolonged reflection on data, and insistence on accurate, systematic data collecting may be an artificial imposition (Johnston, 1994). Do outsiders encountering this

dilemma, run the risk of manipulating the insiders by delaying action?

Although time on site and rapport-building reduces the distance between participants and researchers, the complex nature of schools necessitates some compromise in the dilemma between the context and the accuracy of data sought in action research. An outsider is invariably either absent when relevant events occur or, in not being an integral member of the school's grapevine, is unable to access particular data. On the other hand, an outside researcher may have access to data that is not readily available to insiders, such as confidential remarks about other staff members, fears or career aspirations and information concerning overall school matters. When insiders conduct their own research, the amount of data they can collect is inevitably lessened by the demands of teaching obligations; thus counteracting the affects of additional data to which they are automatically privy. The reality of action research is a continual struggle between demands of the context, on the one hand, and accurate and rigorous research on the other hand. The appropriate balance for a school community can only be reached through a process of awareness raising and negotiation.

Autonomy versus collaboration

Another potentially conflicting notion is that between collaboration and autonomy. The fundamental basis of action research, that is, self-reflective practice and ultimately improvement in understanding and practice, is an individual matter. No other person can develop understanding for another person; each individual has to construct his or her own knowledge, understanding and reflective awareness. To demand that other individuals reflect on the same matters, at the same pace as others, is simply unrealistic. Yet, the notion of collaboration incorporates the belief that others are engaged in similar activity. The problem arises in critical communities where people are reflecting and operating at different levels. Although writers such as McTaggart (1991) argue that action research acknowledges and indeed values diversity, people live in political communities. Equity and participation may be superficially valued, but in circumstances where powerful individuals thwart or limit others' contributions or actions, then collaboration is not feasible. Although the word collaboration implies working together and cooperating, in schools where teachers predominantly spend their working lives in separate classrooms in a small kingdom over which they have dominion, collaboration is an antithetical principle. To establish collaboration amongst teachers, strong forces of teaching socialization need to be counteracted. Nevertheless, writers like Kemmis and Di Chiro (1987) argue that *only* in a critical *community* can teachers be emancipated from social, political and cultural restraints.

In contrast to Kemmis and Di Chiro, research by Huberman (1989, 1991) suggests that successful teachers were those who focused on their own *individual* professional concerns rather than those of the team or school:

... Positive focusers tended to steer clear of school wide innovation. They defined and stuck with their areas of professional and outside interests, while

at the same time investing heavily in classroom level 'tinkering' to make small changes and improvements in their own way and in their own time. By contrast, negative focusers and those who were disenchanted were heavily involved in school wide innovation... (Huberman, 1991:190)

The study concluded that the best scenario for satisfactory career development entailed a 'craft' model - one that encourages and supports teachers in their tinkering around in their classrooms as a way of expanding and improving their instructional repertoires. From Huberman's point of view, it would seem that action research may be better promoted in individual teacher research projects than in school wide ones. Yet, areas of commonality are needed if ideas are to be shared, challenged and extended. Where research skills need development, support is required and is most readily found in team situations. There is a dilemma in action research therefore, between individual development in reflection and that of critical discourse in a community. To counteract deeper political forces, teachers need to work together but when the political forces are oppositional within the small school community, individual and autonomous action may be inevitable. For instance, at WHS it was seen that one teacher in particular, was interested to collect data about the incidence of homework completion. Opposition was met in a staff meeting discussion with some teachers identifying times when students could complete additional work in school time, and other teachers directing the discussion on to other areas. It was appropriate in this case for the teacher concerned to pursue his own study, having informed staff of his intentions and 'general idea'.

The ambivalence between autonomy and collaboration is not only inherent in action research. Kennedy (1990; cited by Grimmer and MacKinnon, 1992) believed that teacher education was marked by an ambivalence between two goals. These goals included enhancing independent thought and analysis (because situations are too specific to be prescribed); and providing as much codified knowledge as possible for teachers to be armed with conceptual, methodological, curriculum and instructional knowledge foundational to effective teaching. Action research struggles with the competing demands, therefore, of plurality of views and a consensus (common unity) for an improving vision. Further research on this dimension is required.

Tensions between autonomy and control

Control is another illusory concept in the action research literature. It seems to be assumed (such as Kemmis, 1989) that in developing teachers' research skills through action research, teachers gain control over the curriculum, and engage in curriculum development and reform; ultimately determining what counts as knowledge. Although knowledge, particularly explicit knowledge about one's practice, empowers teachers to alter and control the teaching within their classroom, it does not automatically follow that control is attainable over wider educational issues. Social and political forces can be too strong for one teacher, or even a group of teachers, to oppose.

Nevertheless, awareness is the first step towards change. A group of teachers more aware of their own practice, and the practice of others, is in a better position to

critique the education system as a whole. With improved understandings of the purposes behind their own practices, teachers are better equipped to question the basis of formerly taken-for-granted ideologies of the wider educational and social system. In this sense, teachers can be gradually given greater control and strive towards Carr and Kemmis' (1983) notion of emancipation. As seen in the study of WHS, it is a long and involved process.

Underlying the various principles of action research are a number of deeper competing issues. Issues are concerns within social situations which are problematic, susceptible to change and require a practical response. In action research, issues emerge with time and are constantly changing as the complexity of human interactions causes the waxing and waning of central concerns. Reflection on the discrepancies between the action research literature and experience of an action research study revealed some underlying concerns, which are now discussed as issues.

ISSUES IN ACTION RESEARCH

Traditionally, formal research has not been valued amongst teaching practitioners. The esoteric language and consideration of abstract concepts has made research inaccessible to many practitioners. For teachers, the everyday practical demands of teaching result in immediate concerns being continually to the fore, rather than reflection on underlying meanings. With action research this focus becomes problematic. Although on the surface, action research is ideal for teachers in being suited to a naturalistic setting with problems generated in the situation itself and its solutions directed at improvement in the understanding and practice of participants, its dual concern for research and action remains problematic for many teachers. A means of bridging the gap between research and action has been the involvement of an outside researcher. Frequently, this person (or group of persons) is experienced in research and thus is in a position to facilitate the action research process. However, issues arise such as balances of power and ownership. These issues are further explored in the following section.

The value of research to teachers

The challenge of research is not only ideological, but also structural. Time is a precious and limited commodity in schools and is rarely sufficiently flexible to accommodate participants' research projects (McKernan, 1991). To free teachers to collect data on their own classrooms, or that of others, is a luxury rarely afforded in schools. Such a phenomenon is probably a reflection of values and structural conditioning. With a greater incidence of team teaching and reduced teacher-directed learning, teachers can be released to pursue matters pertaining to research. Facilities, such as tape and video-recording, can overcome the problem of personnel availability. Although video and tape recorders may be initially intrusive, frequent use over a period of time can reduce this effect. However, time is a continuing constraint, particularly in the analysis phase. Perhaps the role of the outsider in assisting teachers with action research in New Zealand schools may be as important in terms of resources as in skills support. This point is elaborated further in later sections.

Teachers are not normally taught research skills during their formal training. In fact, practical experience and 'professional judgement' or 'craft knowledge' are more highly valued. This has been defined as follows:

Craft knowledge consists of pedagogical content and pedagogical learner knowledge derived from considered experience in the practice setting... It represents teachers' judgement in apprehending the events of practice from their own perspectives as students of teaching and learning, much as a 'glue' that brings all of the knowledge bases to bear on the act of teaching. (Grimmett and MacKinnon, 1992:387)

The professional practitioner encounters many experiences and situations that are variations on a small number of types of cases. In developing a repertoire of expectations, images and techniques, the professional's practice becomes stable. It is only through reflecting in action that the practitioner reframes a problem. Reframing allows the individual to view the problem differently, to devise new hypotheses and test the hypotheses in novel ways. The remedy to the mystification of practice and to the constriction of reflection-in-action is a redirection of attention to the system of knowing-in-practice and to reflection-in-action itself (Schon, 1983).

Reflection becomes the bridge between a practitioner and a researcher for when:

someone reflects-in-action, (s)he becomes a researcher in the practice context. (S)he is not dependent on the categories of established theory and technique, but constructs a new theory of the unique case. (Schon, 1983:68)

Although teachers are urged to reflect on their own practice and on their own concerns (particularly important in relation to the principles of ownership and control), the tendency to reflect on matters that are readily measured or solved negates the opportunity for emancipation from the embedded social, political and cultural forces inherent in education. If teachers are encouraged to reflect only on matters within their own classrooms, commonalities are not recognised and deeper issues may be overlooked. Tinkering with minor classroom matters does not alter cultural constraints. A community perspective is, therefore, necessary for teachers to perceive the widespread nature of their concern. Thus, with WHS teachers, staff meeting discussions alerted them to widespread student motivational and behavioural concerns that were previously not recognised.

The difficulty arising however, is that each teacher has variable degrees of concern and reaction to the difficulty. Consequently, teachers respond to resultant research with some vicissitude. It is rare, indeed, to have full commitment to an issue. The literature on innovation (eg. Morrish, 1976) indicates groupings of enthusiasts and *resistors* inevitably occur in organisational change. Nevertheless, a critical mass of people can be developed with commitment to reflection, research and change. Involvement of academics or outsiders of some kind may be necessary to broaden perspectives beyond the specifics of the particular school situation. Researchers with access to literature, especially case studies of related investigations, may be needed

to lift the study to a higher plane. The stage at which literature is connected into research is critical however. In action research, the context dictates not only the methodology, the direction and progress of research, but also the theory that is derived from the study. Theory is grounded in practice and is indeed, validated in practice. Only when practice is seen to be altered and improved can action research be said to have been effective. Yet, to rely solely on introverted (in-group) reflections may result in myopia. The ultimate validity of conclusions requires comparisons with a *wider* audience, whether it be an academic or broader educational audience. The quality of a piece of research must withstand the rigours of time, analysis and alternative perspectives. In a school setting, it may mean that at some stage in the undertaken action research cycles an outsider may need to be involved. The outsider can potentially provide a reliability and validity check, as well as alternative perspectives. The role of the outsider is a complex one, however, fraught with dangers as well as having implied benefits.

Role of outside researcher

Because many schools have limited experience in conducting research, the skills of an outsider researcher are frequently sought. This person, or group of people, generally facilitate the process of research with the participants.

Educational action research is simply an educational discourse between academics, teachers and others which is grounded in the field study of educational practice. But it involves two dimensions of discourse, which are grounded in the study of two practical domains: the first-order domain of the teacher and the second-order domain of the teacher educator or facilitator. (Elliott, 1992:10)

Prior to the first-order domain being developed, it seems that schools of limited research experience may benefit from involvement in second-order action research. The strengths an outsider brings to a study include the lifting of teachers' views above instrumental elements of education to wider educational and political forces. This process is enhanced by different original foci (that is, practitioners being primarily concerned about action, and outside researchers about research), for the disjunction of foci serve to make more explicit the practical concerns and taken-for-granted features of day-to-day practice (Hustler et al, 1986). Outsiders can be invaluable in helping insiders to transform vague concerns into actionable problems (Adelman, 1993). In fact, assistance from external expertise is argued to be essential by Harwood (1991:69):

Teacher-researcher action research seems to encourage a jealously-guarded independence which can obscure deficiencies and needs... They may find it is they who have reinvented the wheel, if there is never any collaboration with external expertise.

Outsiders not only provide access to developed expertise and a connection to academic literature, but also to skills and a different perspective on the particular

situation. Outside researchers can be more detached with greater time to reflect than insiders, although Elliott (1988) warns that the neutral broker of information does not exist. Nevertheless, outside researchers are often able to collect data more systematically, read relevant literature and develop a broader perspective than many of the participants, albeit influenced by their own educational theories. Outside researchers may be unable to influence what they value and believe needs to be changed. The participants ultimately own the process of action research, and outsiders are merely the facilitators.

Critical reflection by the outsider is essential to reduce the dangers of taking control of the research and viewing insiders as "objects of knowledge rather than as centres of human consciousness and awareness" (Elliott, 1988:160). However, in order to persuade teachers of the benefits and relevance of research it seems (from the WHS study) to be important to relate to them virtually as a fellow teacher. The outsider then can simultaneously be a colleague and an interpreter of research by assisting teachers in identifying relevant areas for improvement. This strategy, of relating as a fellow teacher while also prompting reflection and a research perspective, may in part bridge the gap between practitioner and theorist.

Apart from pursuing questions of prime interest to teachers, and questions to which they may be initially oblivious, occasionally it can be deemed appropriate for the outsider to provide possible suggestions, sources of reading literature or pertinent teacher development avenues. These resources assist in addressing the research issue of reciprocity, especially when considerable teacher time is required for interviews and meetings. Being an additional resource has to be acknowledged, particularly in data collecting. The absence of this resource is a considerable factor in the decline of motivation and attainment of research activity once the outside researcher departs from the site.

The outsider faces the difficult challenge of striving towards a balance in conducting systematic research, without jeopardising the natural setting of the school. Care needs to be taken to avoid negatively affecting the setting (that is, in not making undue or seemingly artificial demands on teacher time or skills), while still endeavouring to adhere to action research principles. Inevitably some compromise has to be made, such as that mentioned above of occasionally sacrificing detail (reliability), in order to enhance validity.

The outsider-insider relationship raises further problems. Part of the difficulty resides in the somewhat contradictory aims of action research, that is, how to *research* a situation and how to *act* on it. Thus, what is relevant or important to researchers (such as objectivity, thoroughness and rigour) is unlikely to be as highly valued by teachers with priorities of speed and practicality (Hustler et al, 1986). The question of relevancies arises, along with the imparting of skills and stimulation of reflective capacities.

A further challenge to the outsider, while conducting action research, is the responsibility to diminish ones own influence and to empower the first order

researcher (Elliott, 1988). This transition requires considerable skill and experience which can only be developed over the course of a study. The principles of rationality, justice, negotiation and ethical practice are critical (Elliott, 1985), particularly given the role modelling influence of an outsider in being a catalyst for reflective thought.

This raises a concern about the outsider him or herself. The initiation of contact (interaction) between the schools and the outsider may be a critical one. Johnston (1994) argues that action research is always stimulated by some external motivation or intervention. Initiation of action research by the school, rather than the outsider, may lead to greater commitment to the process, provided the necessary skills are present. Whoever takes the initiative, the issue is the *relationship* between the insiders and outsider(s). What is taken-for-granted by insiders may need to be explicated for the benefit of outsiders, and in the explication new insights or understandings may be obtained. The mere identification of ideas provides data and ideas from which discussion (discourse) can arise, but it does not guarantee the recognition of contradictions or general problems.

The process of a school recognising it has a problem or 'general idea' to be resolved, the basis of action research, can be a problematic one. At times, as seen at WHS, involvement of an outsider may be essential to the recognition, or at least early recognition, of a problem. Systematic collection of evidence of consistent and inconsistent practices necessitated sustained periods of focused observation at WHS. The likelihood of such data being collected by insiders in the early stages was remote, given their initially variable understanding and appreciation of action research, and the practical constraints of time for research. Having undergone the process in four cycles, by the fifth cycle teachers were sufficiently familiar with the process to share ideas and allow a teacher to initiate his own investigation.

The particular combination of the initial contact, personality, and skills of the outsider influence and affect the process and outcomes of action research. The outsider is also a different agent for relationships between students and adults. For example at WHS, students continued regular conversations whilst the researcher was sitting amongst them that would not have continued in the presence of teachers. Students and teachers have freedom to say things to an outsider without the consequences of such expressions to an insider - hence at times the outsider's role becomes that of a mouthpiece for the minority view (facilitating a plurality of views). Periodically in institutions, people do not state certain beliefs in order to tolerate and work alongside one another in professional work, while an outsider is able to explicate such thoughts and understandings.

The basic principles pertaining to participant ownership and control must be respected, whatever approach is employed. At times, the demand of academic study may be in conflict with these critical action research principles, but the context is primary and the proposed methodology secondary. In other words, the participants have control over the particular way the action research is implemented and evolves, rather than the outsider researcher(s) who are more likely to envisage a model

approaching that found in the literature (such as that of Elliott (1975) or Carr and Kemmis (1983). Nevertheless, the fine balance between maintaining academic rigour and responsiveness to the context would benefit from further research, particularly in schools involved in action research for the first time.

Corresponding with the proposed readiness theory (below), the outside researcher is likely to operate on the basis of three general phases in facilitating the transformation of a second-order to a first-order action research study. Initially in a study, the person has a **practical**¹ focus in either demonstrating the collecting of data or assisting teachers with their own data collection and later analysis. The outside researcher then progresses to a second, **practical-theoretical**, phase in linking practice to theory either for or with the teachers (depending on the relationship with and readiness stage of the school community). Analysis is critical here, along with the synthesising of informational patterns. Fine professional judgement is required in introducing relevant literature, as the essential essence of action research is theory grounded in practice, rather than literature. Nevertheless, research literature forms a basis of comparison with the wider educational system and as a validity and reliability check for research rigour. The third phase is **theoretical**. The outsider assumes a detached and reflective perspective on the entire action research process and thus contributes to the methodological development of action research. Although the ultimate validation of action research theory is application in practice, a detached stance is required to distance the study from the particular, and to generate multiple hypotheses. Action research is context-specific, but not necessarily context-bound. Emancipation of ideas is required in order to produce new ways of operating and the derivation of improved theories in practice. These operational phases flow in a continuous cycle.

Developing teachers as first-order action researchers can be a challenge, especially with participants of limited research experience. In situations where it is apparent that teachers lack necessary reflective skills, considerable groundwork needs to be done prior to commencing action research. Lack of awareness of the existence of issues or the potential to monitor and change situations, can be compounded by deficiencies in the requisite action research and problem-solving skills. In the current study, the need for staff development in evaluation, unit planning and research skills, fundamental to both the Achieve programme and teacher action research, required continual recommendation in feedback reports before teachers fully realized its importance. Outsider(s) can therefore be pivotal in perceiving fundamental problems or issues that participants, in being too close to the action, cannot discern.

Initially at WHS, teachers were completely focused on implementing Achieve and establishing the programme. Survival was the key objective as they strove to write units of work, establish patterns of monitoring, planning and adapting to new teaching roles and understandings. To expect teachers to improve on practice was an unrealistic expectation at this time. Watt and Watt (1993:36) argue that "the conduct of research must not undermine the teacher's primary job of teaching and the data

¹ These phases are envisaged as emerging emphases, not discrete entities.

collection must not conflict with or impose on classroom instruction"; thus highlighting the advantages of the additional resource of an outside researcher whose *collection* of data has minimal impact on teaching programmes. It was not until teachers had established some routine and patterns of organisation that they were able to literally 'catch their breath and look above the water level'. This phase coincided with the first feedback report at the beginning of term two.

It was important at this time to support teachers by acknowledging accomplishments and progress, while subtly suggesting a few points for improvement. Teachers' inability to absorb these suggestions was later proved by their delayed understanding and ultimate implementation of new ideas into practice. The same themes continued throughout several interview and observational schedules before teachers recognised that their vague anxieties were actually problems. The role of the outsider here was crucial in persisting with certain lines of questioning and, indeed, facilitating the translation of concerns into problems (Adelman, 1993). The time taken to realize the nature of the concern was considerable in itself for teachers, without the additional demands of full responsibility for data collecting.

Teachers needed influencing and, indeed at times, role-modelling of retrospective and introspective reflection, as a prerequisite to problem generation and identification. Being free to consider the underlying trends and issues, rather than being embroiled in the 'mundane' collection of data, teachers were able to utilize available time to consider alternative ways of viewing the programme. They also required demonstration of and gradual involvement in, a variety of practical research techniques. First-hand experience in questionnaires, interviews, observations and reflection on analyzed data resulted in appreciation of research and an avidity on the part of several teachers to undertake their own research. The two attributes, reflection and preliminary research techniques, seem therefore to be symbiotic skills for each enhances the other. Presentation of data feedback stimulated teachers' interest in the programme and research, as well as contemplation on their own practice. In initially freeing teachers to concentrate on the issues at hand, and later relinquishing to them responsibility for data collecting, the dual concepts of reflection and developmental stages of action research were able to emerge.

SECTION TWO: TOWARDS A READINESS THEORY OF ACTION RESEARCH

RATIONALE

The above section, and indeed the thesis, has demonstrated that teachers at WHS were not initially ready to begin their own first-order action research study. They needed a catalyst to bring about a disjunction in their formerly taken-for-granted views and ways of operating. In facing their discordance, reflective skills were developed and enhanced so that tacit and implicit views required explication, examination and justification, and thus became explicit views grounded in improved understanding and practice. Teachers' former dismissal of research as lacking in practical value and application was transformed as they perceived its relevance and

worth.

With limited access to professional reading and development, due in part to their geographical isolation, teachers' research skills and professional understandings were not of the level of overseas teachers engaging in action research. Writers, such as Whitehead (1993) and Elliott (1992) have tended, particularly in latter years, to involve teachers in action research who are undergoing graduate study. These teachers are therefore presented with the challenge of applying theoretical ideas and principles into a practical professional environment. In contrast, action research in New Zealand is in its infancy, with few models to emulate and professional development only recently incorporating action research principles. The challenge is thus theoretical, practical and professional. Groundwork seems to be required to equip staff for the demands and research rigours of action research. Some teachers appear to need support in developing an understanding of theoretical bases for research, a repertoire of potential strategies for application in practice and a change in professional thinking (and teacher socialization) to enable research engaged in by participants to be accepted as valid and valuable research. A transition from involvement in research with an outside researcher to insider-initiated research seems to be one feasible option. It is thus proposed, on the grounds of experiences at WHS, that a readiness period, with the involvement of an outside researcher (or group of outsider researchers) may be necessary in such schools before teachers are ready and able to conduct their own action research projects. The procedures by which this may be done are the subject of the next section.

FRAMEWORK

Once reflection is present, then readiness for action research may be cultivated. This study indicated that there may be three developmental phases to undergo before a school is ready to conduct its own action research:

- i) involvement in an action research study negotiated between 'outsiders' and insiders, to discern the value and relevance of research and to formulate general problems
- ii) role-modelling by the outside researcher(s) of necessary research skills, principles and reflective processes; thus stimulating such development in participants
- iii) encouraging and supporting participants in collecting their own data, developing a questioning inquiry and preliminary data analysis

An ultimate validation of the process could be:

- iv) initiation of action research projects by participants (with emotional and resource support, such as: time, ideas in collecting data, processing, analyzing and presenting data) by the outside researcher (that is, insider and outsider working together collaboratively)

Phases i-ii were seen throughout cycles one to four in the WHS study. Phase iii emerged in the fifth action research cycle (refer to chapter six).

Naturally, individuals and schools would be ready to be involved in action research

at varying phases. A multi-level approach to action research may be a useful concept since it incorporates schools at different phases. Some schools in the UK, for example, may start at phase iii. Depending also on the skills of the outside researcher(s) involved, schools would progress at different rates.

There is a connection therefore, between the outsider(s) and the concept of readiness. For schools with minimal research or school-based development experience, the outsider's presence seems to be essential in assisting the teachers towards a state of readiness for action research. The outside researcher acts as a catalyst in reflecting on theory and into theory. As at WHS, the teachers and students needed to *experience* the worth and indeed importance of research to the improvement of the programme, ie, that teacher development (particularly in reflection) and programme evaluation are integral components of any curriculum development.

In order to gain greater control and understanding of research, teachers need to lead the research process themselves. As with the problems inherent in individualised learning and the nature of choice, providing teachers with action research procedures is futile without the accompaniment of a basic understanding and appreciation of research approaches. It would seem that some teachers need exposure to and supportive training in practical research tools as well as the concomitant skills of analysis. Again, as with the transformation of students from teacher-directed to individualised and ultimately independent learners, teachers cannot be expected to immediately acquire independent research skills. The imparting of skills seems best to be *gradually* transmitted to ensure success and academic rigour. The hectic demands of secondary school life require progressive development of skills in a supportive environment - to expect sudden success as action researchers is assuming the impossible. Instead, a relatively structured approach with the rate of development dictated by the participants, and not the outside researcher, is required. Cognisance also of the particular school culture and the substance of the action research is likely to ensure a closer match between the theory and practice of both action research and educational theory.

DILEMMAS AND CHALLENGES FOR FUTURE RESEARCH

The proposed readiness theory acknowledges and incorporates the reality that school cultures operate in different ways and at different levels. It is argued that schools could opt in at each of the different phases and progress at their own determined rate. The important aspect proposed here is that schools cannot be expected to suddenly launch into first-order action research without some background experience in both the theoretical and practical application of research. Johnston (1994) argues that the need to teach research skills indicates that action research is not a natural process for schools, despite its appeal in focusing on practical concerns of the classroom. She argues that the need for outside 'intervention' particularly in the initiation of action research and often in sustaining the study suggests a deficit model. By this she means that either the system or teachers are at fault in some way.

Teachers' reluctance to take on action research may arise because action

research, although appearing on the surface to be a natural part of what is considered good teaching, actually does not fit with the processes that reflective, inquiring teachers use. (Johnston, 1994:43)

Johnston's (1994) subsequent alternative proposal of story-telling and narrative-inquiry is criticised by Elliott (1994), however. Elliott (1994) argues that if the telling of stories does not promote the transformation of practice then it does not constitute a form of action research. Action research gathers evidence about the extent to which practice is consistent with pedagogical aims. In doing so, it identifies inconsistencies between the theory and the practice, and problematises tacit assumptions (Elliott, 1994). Story-telling falls short of these two features of action research. Sharing experiences without critique means the research component is neglected, and failing to devise new ways of operating as a result of the experience disregards the importance of action in action research.

By promoting what might be considered the 'easy and natural' option does teachers no favour. McTaggart (1989) cited a research study of model teachers who were disregarded by fellow teachers. The teachers in the district recognised only formal and rigorous research as being legitimate. Although it could be argued that teacher socialisation is to blame, the reality in teaching circles is that only rigorous research is taken seriously. Teachers take cognisance of research that confirms their 'common sense', or craft practice understandings, but only research with recognisable quality (reliability and validity). It would seem, therefore, that the way to empower teachers to undertake research is to equip them with the necessary skills to ensure thorough collection of evidence which facilitates reflection, recognition of inconsistencies and contradictions between beliefs and practices. Such rigorous research is likely to produce indicators of sites and processes of potential change action, thus fulfilling the action component of action research.

It may well be necessary, for a period of time, to work with an outside agent for assistance with research skills and reflection. The dangers about which Carr and Kemmis (1986) write, that of potential manipulation by outside facilitators of action research, can be overcome by open communication amongst all participants and exposing power relationships to critical critique. This process appears rather idealistic, but where the participants have ultimate control over what is discussed and actioned, such as at WHS, then potential outside manipulation is minimised. Indeed, the more empowered participants are through knowledge of and practise in action research skills, the more likely they are to be in control of their educational destiny.

The difficulty remains in the transition from neophyte researchers to skilled teacher action researchers. The study at WHS suggests that a readiness period may be important in firstly gaining interest in, and knowledge of, research through negotiations between the outsider and insiders. Participation in action research enhances skills in reflection and gradually expands the repertoires of skills in data collecting and analysis. Eventually, teachers may be sufficiently motivated to initiate their own action research projects, such as the investigation about homework in cycle five, as portrayed in chapter six.

Schools have primarily been sites of learning and not consciously places of research. As all research is ultimately the discovery of new learning, then it is logical to envision that schools will ultimately be leaders of their own educational destinies. With the constraints of centralised curricula facing schools in many countries, it is even more important that schools equip themselves with powers of understanding and practice that can be justified in actuality as well as in theory (Elliott, 1992). To be respected in such research endeavours and the resultant theoretical derivations, teachers need to be skilled in high quality data collecting and analysis procedures. The involvement of an outsider is one proposal for meeting this need.

It may be that the proposed theory is only relevant in regions or countries where limited action research has been undertaken. The need may also be an outcome of particular teacher training experienced in New Zealand and the subsequent teacher socialization and culture embedded in schools. Only more widespread trialling of the theory could answer these dilemmas. The practice at WHS suggests validation and usefulness of the involvement of an outside researcher in the initial stages of programme innovation for stimulating reflective thought, interest and, ultimately, direct involvement in action research.

CONCLUSION

From this action research study of the Achieve programme at WHS, it would seem that it cannot be assumed that all teachers manifest reflective behaviour, interest and skills in action research. Conditions likely to be conducive for action research cannot be relied upon either, for the establishment of a reflective, supportive, critical community capable of dialectical discourse requires considerable time and support to evolve. Unfortunately, guiding principles of action research may be of minimal assistance to the undiscerning researcher for their tension-fraught relationship requires either compromise or a setting of priorities for their successful implementation. It is suggested, however, that the likely need to support, inspire and guide teachers in the transformation from participants in a second-order to independent action researchers in first-order inquiries may be assisted through a readiness period. The actual order and composition of activities would be negotiated at the site, but some initial assistance with data collection and analysis may free teachers from intricate details in order to focus on necessary reflective skills. As these skills develop, along with the increasingly perceived value of research, a gradual relinquishment of responsibility (by the outsider) for both data collecting and analysis can occur. Concurrent attention to the school culture may be required, particularly in stimulating alternative perspectives, changing formerly taken-for-granted and immutable practices so that critical and dialectical discourse can occur. If teachers, at the heart of the learning industry, are to become empowered to determine their own educational destinies, rather than academic researchers or central government, then the development of the highest quality research skills is an urgent concern. The action research study at WHS suggests one means of transforming a school community from minimal experience of research and professional development to a school capable of conducting their own first-order action research.

CHAPTER NINE

SUMMARY AND CONCLUSIONS

This concluding chapter reviews and elaborates central themes of the thesis. Consideration is given to the fundamental principles of action research, the concept of reflection, the outsider-insider relationship, and the notion of the teacher-as-researcher. The relevance of research literature to the informing of teacher practice in terms of individualised and cooperative learning approaches, issues of choice, control and processes of change are questioned within the context of this action research study. Thus, attention is firstly given to the context of the study and the nature of an innovative educational programme (Achieve), at a rural district high school (WHS). Questions are subsequently raised about the nature of educational programmes in schools of relative geographical and professional isolation. Discussion then turns to question the realities of action research in schools, particularly those having no prior experience of action research, and proposes consideration of a theory of readiness for action research. Finally, possibilities for future research are suggested.

WHAT IS ACHIEVE AND HOW WAS IT INTRODUCED TO WHS?

Achieve is the name given to what is primarily an individualised learning programme. Students are provided with choices in learning, limited nonetheless by constraints of the national curriculum. Although subjects such as Mathematics, English, Social Studies and Science are compulsory, within each subject students are provided with some choice of topics. Because the topics are predominantly units of written work, students can proceed at their own pace of learning. Varying levels of learning ability are incorporated into the programme.

Students are also given choices as to their location of learning and with whom they work (both teachers and students). For organisational and monitoring purposes, students are required to plan their work each day. Planning is checked by the tutor teacher who has overall responsibility for the learning of the particular student and by the subject teacher during each period of the school day. Both the tutor teacher and the subject teacher monitor student progress.

The Achieve programme was introduced to WHS for educational and organisational reasons. Educationally, the Achieve programme was thought by the principal and staff to address the wide range of abilities within the school. It would enable more able students to 'get ahead' without being restrained by slower learners. Indeed, Achieve created a more flexible school organisation which allowed students to prepare for external examinations at an earlier age. Similarly, slower learners could take longer periods of time to complete curriculum requirements. In terms of organisation, declining school rolls reduced the number of teaching staff and jeopardised the availability of subject choices for senior students. The Achieve programme allowed these options to continue as teachers could more readily supervise

a variety of subjects and form levels.

Although many of the staff were aware of the school's declining roll and the increased pressure to cater for students of varying ability with fewer teachers, they were initially unsure of Achieve's educational foundations. Some of the staff (6 of the 11 teachers) had visited the school in which Achieve originated, prior to commencement of the programme at WHS. However, the final decision to implement Achieve had been the decision of the senior management team. Consequently, the remainder of the staff were uncertain of the basic rationale of Achieve. They believed it to involve students' determining their own pace of learning, facilitated by the choice of subjects studied throughout the day. Awareness of the need to create differentiated units, according to individual learning needs, was not present. Nor was there a recognition of the need to incorporate elements of cooperative learning, despite the statements recorded in the Achieve administrative handbook.

As far as the teachers were concerned, the basic action research 'problem' of Achieve was its efficient implementation. They had received a 'blue-print' of the programme from the originating school, including sample units of work on which they could model their own devised units. Supposedly, their task was simply to replicate the programme in their school. They sought the involvement of an outside researcher to assist them in providing feedback in implementing Achieve as effectively as possible. This was not an ideal start, compared with more classical approaches to action research. Apart from the principal, the staff did not begin this study with a formalised 'general idea' or action research 'problem'. Generation of the 'general idea' was to evolve later in the study.

WHAT IMPLICATIONS DID THE IMPLEMENTATION OF ACHIEVE HAVE FOR ESTABLISHING AN ACTION RESEARCH STUDY?

Establishing an action research study at WHS required a reconnaissance of teachers' understandings of the Achieve programme and of action research. Their relative professional isolation and the lack of an established tradition of action research in New Zealand resulted in minimal knowledge of action research and individualised programmes of learning. Indeed, their initial levels of reflection (a fundamental aspect of action research) appeared to be low, as suggested by an uncritical commencement to the implementation of the innovative programme. Research seemed to be of minimal relevance to them, judging by the paucity of reported professional reading and a lack of systematic data collecting. The proposed second-order action research study had to begin at a level which could not assume skills in reflection, data collecting or analysis, nor in understanding of the principles and premises of action research. A means of developing understanding of the substantive nature of Achieve and a process for improving teachers' understanding and practices had to be found. The ultimate aim was to empower the teachers to refine their own 'problems' and become first-order teachers-as-researchers.

Teachers' immediate concerns, however, focused on the implementation of Achieve. Because action research pursues questions of interest to the participants, the study

began with concerns of the content of the programme. It is to the substantive issues that the discussion now turns.

HOW WAS TEACHER UNDERSTANDING REFLECTED IN THEIR PRACTICE?

Teachers at WHS launched the individualised learning programme (Achieve) with written units of work which were not differentiated according to individual student needs. They appeared to believe that individualised learning embodied minimal distraction from other students and minimal assistance from teachers. Furthermore, they promulgated the belief that Achieve was about students learning at their own pace. Accordingly, more able students would have the opportunity to complete units of work ahead of schedule and proceed to subsequent levels of the school curriculum. Likewise, slower learners would have the flexibility to spend longer periods of time on curriculum areas of difficulty. Teachers would be freed to devote additional time to these pupils.

Differential pace of learning was the only means of individualising learning. Literature indicating the importance of adjusting learning goals, varying the presentation and sequence of material, catering for different learning styles, providing opportunities for students to pursue their own devised topics of interest and learning approaches seemed to have little influence on the practice of teachers. The literature was perceived to be of minimal relevance, for teachers were more interested in adhering to the perceived ideals of Achieve, namely, allowing students to determine their own pace of learning. The literature on individualised learning was insufficient as an isolated research base. It needed to be critiqued and adapted to be of value to the community of WHS. Indeed, the WHS study led to the conclusion that teacher *understanding* of the term 'individualised learning' was critical to effective practice. The gap between the theory and practice of individual learning seemed to be due to a narrow conceptualisation of the term. There was a need for considerable discourse, experience in the programme and modifications to the school culture before staff would be able to share their understandings and practices. Before this stage was reached, contradictions occurred in practice.

Although teachers espoused the aim of students determining their own pace of learning, the realities of organisational demands and adjustments to the teaching role (from directors to facilitators of learning), resulted in teachers restricting the choice students had over their pace of learning. Teacher-directed classes were imposed, which demanded student attendance in specified classrooms at particular periods of the day. The effect was to restrict student choice in their location of learning, the timing of study on particular subjects and the people with whom they worked. Teachers viewed the edict as a means of ensuring regular contact with all students in order to facilitate the monitoring of work. It was also a means of reducing what teachers intuitively perceived as the isolation of students. There was a need for greater variety in the programme such as the facilitating of group discussions. The contradiction in theory (*students* determining their own pace of learning) and practice (*teachers* determining students' pace of learning) eluded teachers for some time.

It was apparent that individualised learning was more complex than initially anticipated by the staff. The chapter on *Emergent Themes* argued that the concept of independent learning may be too idealistic for the average classroom. Not only does independent learning assume certain skills of the student but also of the teacher. As most teacher education programmes focus primarily on whole class teaching, few teachers receive detailed preparation in the assessment, conferencing and teaching strategies required for independent learning. Creating self-directed learners by teachers who have been socialised and educated to view education as being predominantly teacher-directed required a considerable mind-shift and new skills. To relinquish formerly successful organisational strategies, when few alternatives were provided, was problematic for teachers who viewed teaching as a craft. It was only when teachers appreciated that knowledge is constructed, that there were various ways of viewing a situation and that numerous alternatives existed, were they receptive to change.

Reliance on narrow conceptualisations of individualised and cooperative learning inhibited, rather than extended, student learning. Attempts to counteract the effects of isolation through group tasks were rarely successful however. Again, the basic problem was conceptualisation. Teachers in the present study viewed cooperative learning as students working alongside one another with minimal disruption, rather than having a shared product or outcome. Consequently, they were apprehensive about students sharing equipment and ‘telling the answers’, and thus teachers tended to discourage students from cooperative learning. At times though, teachers’ intuitive teaching skills sought student interaction in groups, through the instigation of teacher-directed classes. Students also expressed a felt need for the option of working alone or together. However, teachers at WHS assumed that students automatically acquired cooperative learning skills and when they discovered deficiencies they often abandoned attempts at cooperative learning. Skills in communication, trust building, leadership and shared decision-making are seen as critical to successful cooperative learning (as discussed in chapter three), but as such skills did not fit with teachers’ understanding of cooperative learning, students were not taught these fundamental skills. Determining the actual cooperative learning skills particular students possessed or for which they required extension would have been a difficult task, especially when teachers were unsure what skills were entailed or how to develop them. A realisation of the need to teach students the requisite skills as well as structure tasks so that cooperative learning skills were practised was a necessary understanding. An action research approach problematised the teachers’ concept of cooperative learning by making explicit teachers’ understanding. The reality of teaching demands, as depicted in the *Five Cycles of Action Research in the Achieve Programme*, suggests a gap between the teaching of such skills in experimental and controlled situations and those of the regular classroom.

WHAT IMPACT MIGHT WHS HAVE ON THE UNDERSTANDING OF INDIVIDUALISED AND COOPERATIVE LEARNING PROGRAMMES?

Along with the explication of teacher understanding of individualised and cooperative learning, the WHS study demonstrated the need for variety and choice in learning

approaches in order to sustain and promote motivation for learning. When students believed they had choices in their learning, particularly with whom they worked (both teachers and students), they had higher motivation for learning. On the other hand, when they believed that their choices were restricted, their motivation for learning declined. The issue of choice became an emergent theme, affecting both teachers and students. Students appreciated having choices and wanted the provision of choice to be extended. However, a combination of teacher misunderstanding and inadequate skills led to the restriction of their choices in the Achieve programme.

Underlying the issue of choice was the question of the importance of particular aspects over which students had choices and whether they were sufficiently skilled to deal with the choices effectively. Choices over why and what to learn, were argued to be more important to student learning than the choices of when and where, with which they were provided in the Achieve programme. However, the issue became more complicated when it was realized that the provision of choices by teachers was restricted by their lack of teacher in-service development and skill training, as well as the constraints under which they were asked to operate from the national curriculum. The investigation of Achieve showed that the provision of choice is largely meaningless when teachers are compelled to conform to national curriculum requirements and external examinations. Nevertheless, teachers still have control over how the curriculum is delivered, and thus, the emphasis in learning programmes ought to be on exploring appropriate learning styles and strategies for individual students. These skills need to be taught through experience in a variety of learning approaches, not through sole reliance on one method, such as the predominance of written units of work in the Achieve programme. An integral connection was thus found between individualised and cooperative learning, rather than viewing them as a continuum of opposing approaches.

HOW WERE PROCESSES OF CHANGE INFLUENTIAL IN ACHIEVE?

Real change only occurs when people change their thinking. Until a recognition of the need for change is realised, innovation remains a proposal rather than a reality. It was only after considerable discussion that teachers realized their need for further information, both theoretical and practical. The realization resulted in an interest for reading of educational theory, collecting of some of their own data (such as their instigation of a student survey) and the request for teacher development. The need for teacher development was identified by the outside researcher during the first cycle of action research, but teachers did not appreciate their need for development until the third and fourth cycles, with development finally occurring during the fifth cycle. Teacher development was most effective at this stage (despite the literature advocating its importance early on in the implementation of innovative programmes), for teachers could not develop from exposure to new ideas until they were ready for the change. Experience of the programme was required for teachers to realize their need for development.

It would seem, therefore, that innovation requires a period of 'settling in' before modifications can be expected. Dealing with the demands of adapting to new

procedures and approaches seemed to be necessary before teachers were able to become sufficiently detached from the innovation to be able to critique it. Experience of the programme was needed prior to teacher reflection on its potential for change. This process enabled essential ownership and relevance of the innovation to be attained by teachers. During this phase a combination of skill and confidence growth occurred for both teachers and students. Reasonable levels of self-esteem and self-confidence were required before successful change occurred, since change necessitated a period of de-skilling (abandoning former ways of organising their teaching) and re-skilling. Survival was shown to be a predominant aim during this phase, with minimal energy and vision available for viewing the innovation in its entirety.

Innumerable staff discussions and feedback of student interview data were required before teachers appreciated the contradiction of their actions, such as the imposing of teacher-directed classes. It was only when they fully understood the ramifications of students' determining their own pace of learning that they realized the implications for their identity as teachers. Their concept of control had to change with their transition from directors to facilitators of learning. This understanding was only possible with a more secure and diverse school culture which accepted a greater range of learning alternatives. However, this realization led to further questions and investigations of the programme.

A process of action research was required to enable teachers to reflect on their practice in order to expose contradictions and thus improve their understanding and practice. Improvement in understanding and practice was seen to occur only through a series of cycles of observation and data gathering, analysis and reflection, refinement of the problem, formulation and implementation of action plans. When teachers were assisted with the substantive and process skills, at a level with which they were comfortable, able to control and for which they had appropriate competencies, action research became the vehicle for their emancipation from misunderstandings, contradictory and unjust practices. The process of action research was not simple however, and required close attention to the procedures and principles employed such as reflection.

REFLECTION - ASSUMED OR DEVELOPED IN ACTION RESEARCH?

The study at WHS raised questions about the extent to which teachers reflect on their teaching programmes and their degree of intrinsic interest in action research. It was found, as explicated throughout the *Five Cycles of Action Research in the Achieve Programme*, that rather than expecting teachers to be immediately successful in applying action research skills, considerable developmental work was necessary. The first of the skills required was that of reflection.

A catalyst was necessary to *activate reflection*, and indeed, a stimulus was required to *maintain the reflective stance* in the early stages of the research. The outside researcher served this purpose. The mere presence of an outsider made participants more conscious of their actions, particularly in the classroom. When such

observation was combined with participant interviews, insiders considered the nature of, and the reason underlying, their actions. Teachers at WHS made explicit formerly implicit understandings by describing and explaining particular teaching practices to the outsider. The process of explanation also allowed them to view their practice in a new light. Consequently, individual growth in understanding of teaching practices occurred. Action research involves more than an individual reflective process, however. The development of a group consciousness was required. Although the collation and presentation of all of the staff's views allowed individual teachers to discern similarities and differences in philosophies and practice, the need for a critical community was evident.

The formation of a school culture conducive to both individual and group reflection required considerable periods of time and particular experiences. The feedback report cycles at WHS were occasions of illumination for teachers. What had been formerly taken-for-granted was made problematic. The teachers in the programme realized that other teachers did not view the innovative programme, Achieve, in the same way that they did. Moreover, their practices differed. What had initially been considered as an immutable programme, was open to change. As teachers became aware of the variations in understanding and practice amongst the staff, and after considerable reflective discourse on the propriety of such variation, they realized that a diversity of learning and teaching practices could be legitimately incorporated into the programme (such as group work and modes of learning other than written units of work). For the first time in the study, they realized that Achieve was open to change. It was then that reflectivity increased in quantity and quality; and the emergence of action research 'problems' occurred. As teachers, they had control over the direction of the innovative programme, rather than the innovative programme dictating their teaching practices and philosophies.

This growth in reflective capacities and control occurred in numerous ways. One dimension that seemed to be of critical importance at WHS, was the practice of staff meeting discussions. Although much of the literature suggests that the development of reflection requires the use of personal writing such as diary entries, it seemed at WHS that a prerequisite phase was necessary. It was the cyclical approach of action research that was vital. In each cycle of action research, data was collected through observation, interview, document analysis, survey and, on occasion, test data which was collated and presented to teachers. Viewing the data collation and its analysis stimulated considerable teacher discussion and debate. It was at these 'feedback' meetings that individual and group reflection was evoked. Because the oral medium was a natural part of the WHS culture and, indeed, was integral to their school meeting schedule, teaching commitments were not jeopardised. Teachers needed the opportunity to verbalise new thoughts and concepts on Achieve as well as questioning of their ideas by other teachers, in order to produce cognitive dissonance and accommodation of new learning. Demanding individual written reflection would have been of minimal value in these early stages of reflection. Teachers needed the simultaneous support of their colleagues, and the challenging of their ideas, to grow in understanding of the process and knowledge required for effective reflection. Although beyond the bounds of the present study it may be that once these skills were

established, teachers' reflective practice could be extended by individual reflective writing. Further research is required to discern the relationship between prior verbal reflection and individual reflective writing. Discussions may be a prerequisite phase, or they may be a different style of reflection. Nevertheless, the meeting discussions were pivotal to the emergence and development of reflection at WHS.

What teachers knew intuitively in their craft knowledge of teaching was able to be justified by a greater understanding of teaching theory. They had not previously considered the rationale of Achieve, yet teachers were uncomfortable with a heavy emphasis on individualised learning (particularly with written units of work for the slower readers). Teachers intuitively instigated the practice of teacher-directed classes to enable some social interaction and group discussions to occur. In the early stages of the programme, teachers were unable to justify this practice. Some of them experienced ambivalence in a practice that they thought was in opposition to the philosophy of Achieve. Nevertheless, the practice solved teachers' organisational dilemmas, particularly with issues of student monitoring and assessment. Considerable data collecting, analysis and discussion of results were necessitated before teachers understood the contradictions of their practices and understandings. Only when it was obvious (through critical discussions) that their practices were in conflict with their apparent understanding of the philosophy of the Achieve programme, were teachers able to derive deeper and more justified rationales for their practice.

What other factors contributed to the teachers' development of the necessary reflective skills for action research? Detachment seemed to be needed for reflection, which was enhanced by greater assistance from the outside researcher in research data collecting and analysis. As teachers' reflective skills developed, their interest in and desire to collect data enabled research skills to be *gradually* transferred from the outsider to the insiders. Initial demands of creating units of work and organisational schedules for implementing the innovative programme occupied teachers to the extent that no time, energy or thought was available to consider the programme as a whole. However, time and experience in the programme allowed teachers to become sufficiently detached to view the programme, teaching, and themselves from a different perspective. Time was also required to allow the school culture to change. The culture evolved so that it became acceptable for teachers to 'take time out' individually and in meeting discussions, to consider matters of philosophy rather than more immediate, and practical organisational and day-to-day teaching concerns.

Some preparatory (readiness) work was, therefore, required prior to teachers conducting their own first-order action research. Traditionally, teachers have not valued research for practical implementation in the classroom, with 'craft knowledge' being more highly esteemed (ironically, action research emerges from and develops teachers' craft knowledge). Compounding the problem is the reality that much of the reported educational research tends to be in esoteric and academic language which is not readily accessible to the classroom teacher. Therefore, an initial goal in the introduction of action research to WHS was to enable the teachers to *experience* the value of research for their own particular situation. This process required exposure

to valid, useful and practical research. It was not until teachers received the first cycle of feedback data that they realized that research could be reported in the vernacular, that it had intrinsic interest to them, and that it was *relevant* to their particular situation. Once data was returned to them in their own language and in a way which conveyed their own classroom concerns, teachers were able to discern the worth of research.

With the realization of the value of research came the subsequent challenge to empower teachers with the knowledge, skills and conviction to pursue their own research. Confidence in abilities, especially under conditions of considerable change, required time and experience. Teachers, therefore, grew in their understanding of the action research process through involvement in a second-order study, concurrent with their own gradual development in data collecting and analysis. Once the initial prerequisite of reflective skills was developed, teachers gradually realized that problems did exist, that innovations were not simple and straight-forward, and that in order for successful innovation to occur changes in their ways of thinking (understanding), acting (practice) and relating to others (situation) were required. This realization grew from a process of reflection-on-action and reflection-in-action.

Thus, it seems that some schools might benefit from preparatory experiences before becoming successfully involved in action research. Teachers at WHS thought that their 'problem' was the implementation of an innovative programme (Achieve). Deeper problems required considerable reconnaissance. It was the absence of reflection and understanding of the programme itself, the process (of action research), and their individual understandings that were the real problems. Reflection and research skills had to be gradually developed before teachers understood that their individual perceptions of the programme differed. They then realized that their individual and collective practices were inconsistent because they had different understandings of the rationale of Achieve. Understanding the inconsistent practices was fundamental to ultimate improvement of the programme. It was, therefore, indicated that development of reflection and research competencies were concomitant skills.

In order to deepen reflection, teachers needed to ask questions about their own practice, and indeed, to collect related data. It was found that teachers were not adept at record keeping, such as minute taking in meetings. The small size of their staff contributed to the informality of organisational practices. Only when they were exposed to systematic evidence collected, analyzed and presented to them by an outside researcher, did teachers begin to appreciate the value of reliable data. Interesting and relevant data about their teaching programmes aroused curiosity for more data about their own practices and the learning of their students. Having been exposed to the rationale, procedures and benefits of data gathering, several of the teachers were keen to instigate their own research projects. The interest only came after exposure to the techniques and the emergence of their reflective capacities. Involvement of an outside researcher seemed to be integral to this development of readiness for action research.

WHAT WAS THE NATURE OF THE INSIDER-OUTSIDER RELATIONSHIP?

As with the participants, the role of the outside researcher evolved with the study. Responsiveness to the context is fundamental to effective action research, so that the first cycle required familiarisation of both the insiders and outsider to the school culture and Achieve programme. Initial contact was consequently of a second-order action research approach which gradually evolved to a first-order study. Not only was it necessary to ascertain the teachers' readiness for action research, but it was also necessary to discern and negotiate the most appropriate insider-outsider relationship. Learning was also required on the part of the outside researcher. It was also particularly important to ensure triangulation of data, that is, amongst teachers, students, and the researcher in order to enhance validity and reliability. Ensuring triangulation of data collecting, collation and analysis reduced the limitations of having only one outside researcher involved in the study. With the evolution of the study, teachers and the researcher became more equal partners in the research, in contrast to more initial involvement of the outsider. Nevertheless, teachers controlled the information relayed in interviews and in feedback reports, as well as in feedback meeting discussions. The derivation and implementation of action plans was within the control of the participants.

For a number of reasons, initial responsibility for data collecting was that of the outside researcher. Teachers were primarily concerned to replicate Achieve as closely as possible to the prototype school and believed the outside researcher would assist in this task since she had previously been involved at that school. They were engrossed in implementation concerns, particularly those related to establishing organisational routines (such as effective monitoring of students) and with creating sufficient units of work for the students. Thirdly, the teachers were unfamiliar with the rationale and procedures of action research. They wanted the outside researcher to assist them in evaluating the programme by data collecting. Although this situation was not ideal for the commencement of an action-research study, it was reality. A period of familiarity with the programme and the school culture, as well as attention to readiness activities (such as development of reflection), enabled the situation, teachers' understandings and practices to evolve into an action research study and indeed, into a first-order study.

As teachers grew in confidence, developed reflective capacity and became familiar with the innovative programme, it was appropriate for the outsider to relinquish greater responsibility for, and involvement in, the action research study. Negotiation of the insider and outsider roles occurred at the outset and in a more minor way throughout the study. Three phases emerged in the development of teachers from neophyte to independent action researchers. Initially, the outsider provided considerable *practical* support in terms of reciprocity with the teachers encountering the demands of adopting and adapting to an innovative programme, through data collecting and analysis. Once teachers were freed from the pressures of implementing a new educational programme, it was pertinent to move to a second, *practical-theoretical*, phase. The researcher linked the practical to the theoretical basis of

action research to inform the practice of the participants. It was appropriate to introduce relevant literature, and to focus attention on more general concerns. Although action research is responsive to the context it does not need to be context-bound. Teachers needed to be exposed to other teachers' practices within and outside their own school, in order to challenge their newly formed hunches and theories. A broader knowledge base allowed them to challenge their own views (reflection-on-action) and to develop more valid understandings. The third phase, a *theoretical* one, evolved. Having devolved greater responsibility for data collecting and analysis to the insiders, the outside researcher was able to take a more detached stance and theorise on not only the content, but the process of action research. From such meta-reflection, the proposal of a readiness theory for action research was formulated (see page 231).

An ever-present danger is that of the 'expert' researcher wielding rather than yielding power to the participant. Action research is based on the principle of democracy. Partners in action research, such as teachers and the outside researcher, need to be viewed as equals. Although in the early stages of this second-order action research study, insiders and the outsider had varying understandings and skills, many of which were from opposite ends of the theoretical and practical continuum, these skills were seen as complementary. The process of negotiation was critical as both parties came to discern the other's perspectives, goals and equivalent contributions to the study. During this negotiation, cognisance of particular action research principles was a necessary condition for a valid and reliable study. However, multiple principles are espoused by various writers on action research. It is argued in chapters four, five and eight that certain combinations of action research principles may be in dynamic tension.

HOW COMPATIBLE WERE VARIOUS PRINCIPLES OF ACTION RESEARCH?

The concepts of autonomy and collaboration were periodically incompatible. The fundamental basis of action research is self-reflective practice, which is an individual matter. No other person can develop understanding for another person; each individual has to construct his or her own knowledge, understanding and reflective awareness. Although action research requires a critical community to create the conditions for improvement in understandings, practices and situations of the participants, there can be occasions when a divided or diverse group of participants may hinder rather than facilitate the development of action research. In such cases, individual action research projects may be a feasible starting point, given that action research seeks to transform the craft theories of teachers. An individual may collect data on his or her practices, and through various cycles of reflection, refinement of the 'general idea' or problem, data collecting, analysis, formulation and implementation of the action plan, may improve his or her understandings and practices. Nevertheless, action research is a political activity, aimed at improving the situation (relationships between participants), through principles of rationality, justice and democracy. These political, and often oppressive, forces frequently require more than an individual. A critical mass of people may be required in order to effect change. In a culture of critical discourse and collaboration, more effective

improvement in practices can be attained, which may be otherwise impossible for individuals. Action research principles therefore, can only be advocated as guidelines, because circumstances vary from one action research site to another. Autonomy may be a more successful strategy in one situation, while collaboration may be more effective in another.

Thus, at WHS *one* teacher *initiated* a study of students' homework habits, which initially met with apathy and resistance from some other staff members. After a systematic collection of data was presented to the staff, they *also became concerned* at the low amount of study achieved outside of school hours. More extensive investigation was launched which eventually resulted in homework classes being established after school. This change in practice would not have occurred if there had been initial reliance on collaborative support.

Further dilemmas can occur between the principles of responsiveness to the context and rigorous data collecting. Reliable and valid data is essential for action research, but the realities of the context can prohibit thorough data gathering. Realistic demands must be placed on participants, such as reasonable duration and frequency of interviews. In schools, participants' prime responsibility is to their students and effective learning and teaching, not to the requirements of the outside researchers' requests for information. A delicate balance needs to be found between sufficient data for grounding reliable and valid theories, and reasonable demands on the time and resources of participants. This may necessitate compromise between the theoretical (textbook) expectations of effective data gathering, and the practical realities of limited time and rapid action in schools. Accumulating large quantities of data has limited value if the teachers' concerns have moved to another problem by the time the data is analyzed. Striving for accurate data is critical however, if action research is to be an effective strategy for changing educational practices. Teachers cannot afford to be negligent in thoroughness of data collecting and analysis, for it is essential that teachers, at the heart of learning and teaching, become empowered to determine their own educational destinies, rather than academic researchers or central government. The development of the highest quality research skills is an urgent concern if teachers are to improve their understandings and practices.

An important concept in empowering teachers with skills in research is the principle of control. This principle can be in dynamic tension with autonomy and collaboration. Control is only possible when people have the necessary skills, knowledge and opportunities. It seems to be assumed however (Kemmis, 1989), that in developing teachers' research skills through action research, teachers gain control over the curriculum, and engage in curriculum development and reform; ultimately determining what counts as knowledge. Although knowledge, particularly explicit knowledge about one's practice, empowers teachers to alter and control teaching within their classroom, it does not automatically follow that control is attainable over wider educational issues. Social and political forces can be too strong for one teacher, or even a group of teachers, to oppose.

Nevertheless, with improved understandings of the purposes behind their own

practices, teachers are better equipped to question the basis of taken-for-granted ideologies of the wider educational and social system. In this way they are able to strive towards emancipation. Regardless of the ideal aims of some action research, the increased skills and understandings of teachers provides them with ultimate control to collect data, analyze and reflect upon their own practice. Given a highly developed reflective stance and rigorous research skills teachers, not outsiders, can determine their own educational destinies. This eventuality can only occur when teachers become researchers, thus closing the gap between theory and practice.

HOW DOES THIS STUDY CONTRIBUTE TO THE CONCEPT OF TEACHERS-AS-RESEARCHERS?

Because the study at WHS indicated that not all teachers were ready to become first order teachers-as-action-researchers at the outset, a tentative readiness theory for action research has been proposed. The study suggested that three developmental phases may be necessary before a school is ready to conduct its own action research. The three phases included:

- i) involvement in an action research study negotiated between outsiders and insiders, to discern the value and relevance of research and to formulate general problems
- ii) role-modelling by the outside researcher(s) of necessary research skills, principles and reflective processes; thus stimulating such development in participants
- iii) encouraging and supporting participants in collecting their own data, developing a questioning inquiry and preliminary data analysis

Schools and individuals would vary in their degree of readiness for action research so that entry to the process could be at different phases. A measure of achievement of readiness could be seen in initiation of action research projects by participants, with research and individual support from the outside researcher(s); in other words with insiders and outsiders working collaboratively.

Ultimately, teachers may be able to conduct action research independently of outside support. However, this is conjecture for the researcher was required to withdraw from the site prior to such potential development. It may be that some schools lack the skills or resources to ever reach a state of independent action research capacity, while other schools may be able to successfully launch into a teachers-as-researchers study from the outset.

Although the readiness theory is limited through its derivation from the experience of only one researcher at one school, and with its location in rural New Zealand, the essential underlying argument is the challenge to the expectation of immediate research success by teachers. Development of action researchers is a gradual evolving process. Like students making the transition from teacher-directed to self-directed learners, teachers required a gradual transfer of skills. Teachers are rarely taught research skills in their pre-service development and thus are frequently reliant on people more experienced in research to impart the necessary skills. The

relationships between the outsider(s) and insider(s) are critical in action research where experts in the practical and the theoretical work together to close the gap between theory and practice.

WHAT FURTHER RESEARCH QUESTIONS ARE RAISED BY THIS STUDY?

The questioning of the depth of reflective capacities of teachers requires more investigation. Reflection was not initially as evident as might be expected at WHS. Was the problem the means through which reflection can be expressed, or that reflection requires stimulation and certain conditions to be manifested? Perhaps it is characteristics of particular school cultures which inhibit the public expression of a questioning stance. Are geographically isolated schools more likely to suppress an inquiry approach, or is it an indication of a specific management style?

The concept of readiness may be only applicable to some New Zealand schools, for whom action research is a new concept. This possible limitation would provide an interesting research study, particularly as interest in action research is growing in New Zealand. Cross-cultural and cross-regional studies may reveal patterns of localised differences in disposition for action research. Establishing networks amongst New Zealand action researchers (as has recently occurred in Auckland), may further illuminate the concept of readiness. A greater number of action research studies may highlight the skills (or lack thereof) of the outside researcher being the pivotal factor as to whether or not schools need to engage in a readiness period for action research. Its relevance may be limited in the UK, Australia or the USA where schools have been engaged in action research for some time and are exposed to the experiences of other teachers and research studies. Investigation of courses for pre-service teachers may provide further indicators of training needs, or particular types of teachers who have greater intrinsic interest in researching their own practices.

The duration of the study and its timing in relation to the innovative study may have been problematic. Eighteen months is a small slice of a school's life and conclusions reached at this stage may have changed considerably had the study continued for another year. Although action research is ideally suited for solving *relevant problems* which inevitably arise in innovations, when school communities need also to learn such skills as reflectivity, the demands may result in teacher overload.

For the duration of the study, teachers were overwhelmed by curriculum and assessment changes from central government. The effects of such additional pressures may have detracted from teachers' normal enthusiasm and energy for school developments. A more extensive examination of the school's history may have revealed other contributing factors.

The process of action research is likely to be quite different in a small programme from a school-wide innovation. The factor of size and fewer numbers of people with whom to communicate and evolve consistent policies may alter the conceptualisation of a readiness concept for action research. There may be less inertia within a smaller group of people working together so that decisions made may be actioned more

quickly. Shorter periods of time between action research cycles may be possible and thus the momentum of the study more readily maintained. However, with fewer people with whom to debate issues and share various tasks, these suggested benefits may be nullified.

The role of the Principal may be pivotal in the need for a readiness period and, indeed, for the success of an action research study. His or her particular educational knowledge and aptitudes, organisational and interpersonal skills may be critical factors in the pace and direction of action research. The factor of the Principal is an area of further research, particularly in conjunction with the proposed readiness theory.

Clearly evident is the need for further research to investigate the viability of a readiness theory for action research. What is suggested from this study however, is the likelihood of further expansion of the number of teachers-as-researchers involved in first-order action research studies. If a school community like WHS, which encountered significant difficulties and limitations at the outset of the study, can cultivate the art of reflectivity, develop skills in action research and enable their school culture to evolve to the extent that action research is accepted and has the potential for on-going development, then the future of teachers-as-action-researchers is assured.

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APPENDIX A

SAMPLE OF WHS FIELDNOTES AND STUDENT PLANNING

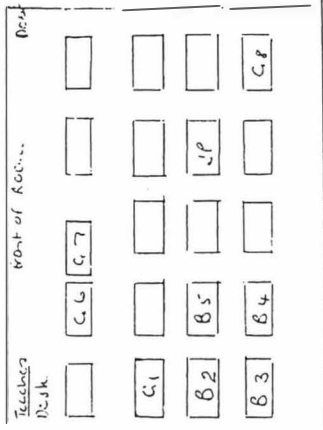
5011

23/7/92

Ed 3 R2 Mr S.

8 So present (3 girls; 5 boys)

Classroom layout:



- 1 = C.O.
- 2 = E.H
- 3 = S.H
- 4 = S.B.
- 5 = L.H.
- 6 = A.P.
- 7 = R.W.
- 8 = A.H.

Students are seated in separate desks.
 2 girls (C6 & C7) are working together;
 but otherwise to are separated (but clustered at one corner of the class.

11:29 1 min intervals.

- 1 W W W W R W W R R R R R R R R W W W W W W
- 2 R d h
- 3 d l h
- 4 R R W d l d d h h h h h h h h h h h h h h h h
- 5 W R d p p W R l l W T T + W d d + d w w l p w w w

Mr S. explains a problem to the 2 girls. 2-3 talk together as about calculator. How much time is left until assembly.
 Mr - concerned use of calculator how to do a particular problem

10:00 10:05 10:10 10:15 10:20 10:25 10:30 10:35 10:40 10:45 10:50 10:55 11:00 11:05 11:10 11:15 11:20 11:25 11:30 11:35 11:40 11:45 11:50 11:55 12:00 12:05 12:10 12:15 12:20 12:25 12:30 12:35 12:40 12:45 12:50 12:55 13:00 13:05 13:10 13:15 13:20 13:25 13:30 13:35 13:40 13:45 13:50 13:55 14:00 14:05 14:10 14:15 14:20 14:25 14:30 14:35 14:40 14:45 14:50 14:55 15:00 15:05 15:10 15:15 15:20 15:25 15:30 15:35 15:40 15:45 15:50 15:55 16:00 16:05 16:10 16:15 16:20 16:25 16:30 16:35 16:40 16:45 16:50 16:55 17:00 17:05 17:10 17:15 17:20 17:25 17:30 17:35 17:40 17:45 17:50 17:55 18:00 18:05 18:10 18:15 18:20 18:25 18:30 18:35 18:40 18:45 18:50 18:55 19:00 19:05 19:10 19:15 19:20 19:25 19:30 19:35 19:40 19:45 19:50 19:55 20:00 20:05 20:10 20:15 20:20 20:25 20:30 20:35 20:40 20:45 20:50 20:55 21:00 21:05 21:10 21:15 21:20 21:25 21:30 21:35 21:40 21:45 21:50 21:55 22:00 22:05 22:10 22:15 22:20 22:25 22:30 22:35 22:40 22:45 22:50 22:55 23:00 23:05 23:10 23:15 23:20 23:25 23:30 23:35 23:40 23:45 23:50 23:55 24:00

-9 APR 1992

2021

removed with the strap. He then takes a mini torch out of his pencil case to show his friend. They show administrative for about 30 seconds then momentarily return to their maths.
 1:52 Mr U comes over to the 2 girls - asks them to get on with their work - ask the girl to stop thinking and with his pencil case

1:59 Mr J. - has called in briefly to pass a message on to Mr U. The other 2's conversation to the 2 girls. looks at their 'plenary'.
 Mr asks: Are you ahead of your work? How do you decide what to do? How do you decide on what you're behind on? How often do you before about something again. Is this your

However, a few 'dependent' learners ask a list of Qs (explanatory bldg?) - Evidently was ahead in the units - 2 F2 girls will be on to F3 notes by June.)
 Other, as they stop are quiet, can get very quiet a lot of deepening, quiet 'munching' sound by playing with pens.

8 FEB 1993

8/2/93

8021

pd 3 - to preliminary in
with out activities - over a
evening; moment.

A month down in spending
LTS model in which 0.5
during a lot of exploring to
do

Productive discussion:

Learn's model, address in
LTS ; stops in LTR
of the ; light (to really
enjoyed it - were very tired!

pd 4 82

Fg models.

pd phase out acts to do
also needed them -
receiving suit no.
be called on give up asking
for her assignment. She
avoid the ladder. been there a
long

to begin in vid. very well
to during a lot of talking
they need to be better to be
write for the gr. structure
However they're trying to talk
the log. the change of
and some in development -
seems practical (except for
change with several projects)

JP - let them write up
avoiding:

- 1. Pt survey
- 2. T.S. sit. data from New
- 3. Pgs to supplement 'ggs'

a) Books to cover for loop lg;
lythick (7 ways of knowing)
"after them thinking"
short/tech than asking

b) The Project Plan' by (1991)
c) Kegan (1991) 'loop lg network'
from ^{to} ~~the~~ 'looping to learn'

20 FEB 1992

0135

to learn now. Find with too
changed to be general confidence
The behavior will have need to
write more than the angle
quite common they were do.
the loop exploring with - natural that library being
his. looking at what cannot stand out as how many is
other to write & the work. were going there to feel around.
to read quite interested
with their work.
12 noon - I returned to her
A. writing room. Open
above pencil. 8 to (1, by) & how
working his time 4 pm
1 in run
2 + 2.5 at a spot of 3 dots
1 x 3.5 at a spot of 3 dots.
occasional quiet uterine are
submerged by
- have - do we copy it's design.
No.

if possible publishing
7 answers: applications
or by kids' prog maybe
What's the structure
will prog. structure
highlight up better?
What's just does T.
philosophy have on this?

where's mean & are
concerns of speaking
"more-related
conversation"?
Object to importance of lg?
Yes, have a look!

WEEK BEGINNING

| DAY | SUBJECT | RM | DETAILS OF WORK | SIGNATURE | HOMEWORK | DAILY COMMENTS |
|-----------|---------|----|-----------------|-----------|----------|----------------|
| MONDAY | | | | | | |
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| THURSDAY | | | | | | |
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| FRIDAY | | | | | | |
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| SATURDAY | | | | | | |
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WEEKLY COMMENTS

| DAY | SUBJECT | DETAILS OF WORK | DATE DUE | COMMENTS |
|-----|---------|---|----------|----------|
| 1 | Eng | REF Unit. Poetry. Read & answer questions | Est 10p | |
| 2 | S Ct. | JB Response Unit. Unit 1 & 2 Eng. | Est 2pm | |
| 3 | Eng | REF Different kinds of poetry. Summary | Est 10p | |
| 4 | Hx | KV. The Four rules. Revision work | Est 4p | |
| | | To Four Figures | | |

WEEK BEGINNING: Feb 10th, Sample of 'Student Record'

Attendance (half days): /

Parent's Signature:

APPENDIX B

WHS FEEDBACK - MAY 1992

Student Interview Summary Comments

1. Generally high satisfaction with the programme, with 95% students interviewed liking the programme.

2. Reasons for liking the programme varied, although *choice* was the predominant theme:

| | | |
|----------------------|------------------------|----|
| Choosing | - classes/rooms | 12 |
| | - teachers | 7 |
| | - what to do when | 7 |
| | - friends to work with | 1 |
| Working at own pace | | 4 |
| Able to catch up | | 3 |
| Setting own homework | | 2 |

3. Dislikes were not strong, but teacher availability was an issue for some, while the struggle to take responsibility for their own learning was an issue for others.

| | |
|--------------------------------|----|
| Nothing | 12 |
| Teacher unavailability | 7 |
| Planning | 3 |
| Pie charts | 3 |
| Nobody makes you work | 3 |
| Prefer group work and teaching | 3 |
| Not understanding the work | 3 |

Thus responsibility for their own work habits was a concern to some - the issue of time management also surfaces in another question.

4. When asked how school compared with last year, students generally preferred school this year, 1992. However, a few students changed their minds from the first question and would prefer a teacher-directed learning system. These were students who were having difficulty planning their time or asking for assistance with work.

| | |
|----------------------------------|----|
| Prefer Achieve | 10 |
| Prefer teacher system | 4 |
| Work at own pace | 4 |
| Getting more work done this year | 3 |
| Work with teachers you like | 2 |
| Avoid a subject you don't like | 2 |

5. The next interview question asked students how they liked this way of learning?

(in Achieve)

| | |
|------------------------------------|----|
| Good /like it | 17 |
| Enjoy independent learning | 10 |
| Prefer working with others | 6 |
| Easy work | 2 |
| Need to see the teacher more often | 1 |

Overall the students were really enjoying the units of work. The more able students really appreciated being able to "get on with the work rather than wasting time waiting for others to catch up or listening to instructions that they did not need."

A few students felt they learned better in interaction with others however. This was particularly so for the Maori students.

6. Students were then asked if they found the work easy or hard and why they did.

| | |
|-----------------------------|---|
| Easy | 5 |
| Maths | 3 |
| English | 1 |
| Hard understanding the work | 8 |
| Time Management | 7 |
| Science | 3 |
| English | 2 |

Under the category of understanding the work students made comments like:

"I don't understand what to do. I read it, ask the teacher and then they say read what it says. I have but I don't know what I'm supposed to do."

"I don't understand some of the words. I'm not exactly the brainbox of the school."

"There's too much reading."

" I understand better when my friends explain it, but we aren't allowed to talk in some rooms."

Time Management covered concerns such as: sticking to plans, difficulty working out what you wanted to do, catching up on work, keeping up-to-date, sticking to plans, completing pie charts.

7. Students were asked if they thought they were learning better in Achieve.

| | |
|----------------------------------|----|
| Yes | 14 |
| Unsure (varied amongst subjects) | 5 |
| No | 3 |

8. To determine the degree of social mixing students were asked who they worked with in Achieve.

| | |
|---------------------------|----|
| Friends (same form level) | 19 |
| Everyone | 7 |
| Tutor group | 4 |
| People who worked hard | 2 |
| Maoris | 1 |

Students were asked to name the people they preferred working with and the names were subsequently classified into the above groupings. At times students mentioned a couple categories, thus the resultant frequency count.

9. Students were then asked what they thought of the pie charts.

| | |
|-------------------------|----|
| Prefer the booklets | 13 |
| Don't lose them | 7 |
| Easier to plan ahead | 6 |
| Hassle planning/signing | 7 |
| Like them | 3 |

Again, time management and planning may be potential discussion points.

10. In order to determine what influenced students in their planning they were asked the question, "What helps you plan your work?"

| | |
|------------------------------------|----|
| Subject balance | 11 |
| Timetable and teacher availability | 8 |
| What friends are doing | 6 |
| Dates work due | 5 |
| Preferred teachers (room) | 4 |
| What feel like doing | 4 |
| Talking or quiet room | 3 |
| Bulletin notices | 1 |

The issue of teacher availability is an underlying issue, especially for students who prefer more frequent teacher help.

11. Finally, students were asked, "If you could change anything in Achieve, what would you change?"

| | |
|----------------------------------|---|
| Nothing | 6 |
| Signing pies once a week | 5 |
| Not writing your room on the pie | 4 |
| Subject teachers available daily | 4 |
| Maths, Science, English | 2 |
| Prefer old system | 2 |

More space on pie for comments

1

Thus overall, there is a high level of satisfaction with the programme. Student perceptions are those of:

- enjoyment;
- that the programme is well organised;
- units have interest and variety;
- that mostly they are coping well with the work.

A few issues surfaced:

1. Teacher availability
2. Wanting help from friends
3. Assistance needed with planning and organising time
4. Learning style

Suggested discussion points:

1. Didactic teaching on planning
 - setting realistic goals each period
 - organising time eg. for fortnight unit
2. Overcome teacher timetabling difficulties by:
 - encouraging students to ask teacher for help when needed
 - encourage students to help each other (peer support learning; work-related talk)
 - ascertain whether the instructions are the obstacle or comprehension of the work itself
 - offer a range of tutorials or group discussions (especially in English) for those whose preferred learning style is auditory;
 - option of structured group tasks for students who prefer to work with others (encourages cooperative learning, peer support, awareness of learning styles) (especially in Science where students (mostly girls), lack confidence with experimental work)

Maori students also expressed desire for more group tasks
3. Student conferencing - to assist individuals with:
 - planning
 - specific subject difficulties or feelings of inadequacy,
 - feedback
 - determining preferred learning styles

Teacher Interview Summary Comments

1. Generally teachers are enjoying the programme. A few teachers are reserving judgement however, until later in the year.
2. Teachers spoke of increased preparation time, especially during the summer

holidays preparing units; this activity has continued throughout the year. Marking of student's work is more spread out.

3. The majority of teachers felt there was a greater need for professional development:

- monitoring of students - consequent need to adjust reports
- student conferencing
- one-to-one teaching
- more interesting and varied unit writing

4. Teachers expressed concern about the learning of slower learners; most believing that the units of work were not yet catering sufficiently for these students.

5. When asked what teachers found most challenging, frustrating and rewarding about Achieve they gave the following responses:

Challenging:

- | | |
|--|---|
| -unit writing (especially interesting; at right level) | 5 |
| -miss group discussions; 'teaching' kids | 2 |
| -need to work out assessment | 1 |
| -constructing clear written explanations | 1 |
| -being flexible - different curriculum areas | 1 |

Frustrating:

- | | |
|--|---|
| -not seeing students on regular basis | 5 |
| -collecting/distributing books | 3 |
| -miss discussions, dramas ... | 2 |
| -keeping tabs on students | 1 |
| -kids not timetabling to see you | 1 |
| -too many kids in library | 1 |
| -all teachers need to be stricter | 1 |
| -students need help to plan better | 1 |
| -students asking too frequently for help | 1 |

Rewarding:

- | | |
|--|---|
| -changed teacher role to that of helper | 3 |
| -one-to-one teaching | 3 |
| -less conflict; better teacher/student relationships | 2 |
| -pleased with standard of work | 1 |
| -students quicker at planning own work | 1 |
| -capturing the teachable moment | 1 |
| -seeing kids enjoying units and doing well | 1 |
| -no rewards yet | 1 |

6. In conclusion, teachers are generally satisfied with progress to date, although mindful of further improvements to come.

APPENDIX C

WHS ACHIEVE FEEDBACK - SEPTEMBER 1992

During August I interviewed six students from each of forms 2, 3, 4 and 5; as well as teachers involved in Achieve. The data gained and gleaned from those interviews is detailed below - students' views are considered first and these are followed by those of the teachers and possible matters for discussion.

Student Interview Data

Students were generally more relaxed and open in the August interviews, compared with those in March. This was probably due to a number of factors: interview experience, familiarity with question type, a few students had thought about possible responses the night before or talked with parents and/or friends, they were more familiar with the programme, and were more used to the interviewer. Despite high overall satisfaction with the programme, some interesting responses indicate areas of programme modification. Details of student responses are recorded below.

1. How are you finding Achieve?

Student responses were very favourable:

| | |
|---------------|----|
| Better | 3 |
| Good | 5 |
| All right | 14 |
| Don't like it | 1 |

2. What do you like about Achieve?

A variety of responses were recorded, but the more common responses related to: flexibility, independence, choosing own rooms and teachers.

3. What do you dislike about Achieve?

Most students stated there was nothing they disliked about Achieve - indicating that their immediate needs and concerns were being addressed. A few issues surfaced, nonetheless:

| | |
|--------------------------------------|---|
| Nothing | 9 |
| Planning | 3 |
| Signing books | 2 |
| Too much work | 2 |
| Own pace yet deadlines | 2 |
| Science not being teacher directed | 2 |
| Not being allowed to leave classroom | 1 |

Thus, students are predominantly satisfied and concerns are minor in number. Students (and teachers) highlighted a contradiction: "Achieve is supposed to be at your own pace but teachers try to hurry you along." This is a dilemma when teachers see students not using their time productively. It can be difficult to judge

when students are being 'lazy' or when they need extrinsic motivation. This dilemma may need further discussion.

4. Do you prefer to work by yourself or with others? Why?

Student responses varied considerably, depending on the subject area and task. What is clear is that students like the **choice** or **option** of working with others or by themselves.

Students usually preferred to work alone for hard or concentrated work. They preferred to work with others when they needed help. These others were consistent work 'mates' - usually with similar work habits to their own.

There was an ethnic difference in response, with Maori students nearly always opting to work in groups. This preference may need consideration in the programme. Tasks may be structured to build on this social preference and skills enhanced for cooperative and collaborative work habits - a point discussed in greater depth later.

| | |
|--------|----|
| Self | 8 |
| Others | 10 |
| Varies | 6 |

5. What do other students do to make it hard/easy for you to get your work done?

| | |
|-------------------------|----|
| HARD | |
| Talking | 22 |
| Nothing | 3 |
| Run around | 1 |
| Read aloud | 1 |
| Fight | 1 |
| EASY | |
| Are quiet | 6 |
| Nothing | 6 |
| Help you/explain things | 5 |
| Move away | 2 |
| Do their own work | 2 |

* NB A few students mentioned several factors.

It would appear that quieter rooms may be needed - or a separation between those wanting to work independently and those who wish to work in groups.

6. When you plan your work, what helps you decide what to do? (friends, being behind in a subject, variety/balance of subjects)

| | |
|-----------------------------|---|
| Subject I am behind in | 9 |
| Same as friends | 9 |
| Set own pattern (each week) | 9 |
| Check subject balance | 6 |

| | |
|---------------------------|---|
| Rooms certain teachers in | 4 |
| What feel like | 4 |
| Writing plans | 2 |
| Where I need help | 1 |
| Teacher directed sessions | 1 |

A couple students made additional comments about having too many teacher directed sessions and not enough 'Achieves'. Whether the underlying issue is one of control/autonomy or not wanting to do subjects they want to avoid is something teachers may want to discuss.

7. *What is your favourite room to work in? Why?*

| | |
|--------------|---|
| R1 | 2 |
| R2 | 4 |
| R3 | 9 |
| R4 | 7 |
| R6 | 3 |
| R7 | 5 |
| R11 | 1 |
| Library | 2 |
| No favourite | 2 |

Reasons:

| | |
|-----------------------|----|
| Particular teacher(s) | 10 |
| Friends work there | 4 |
| Quiet | 3 |
| Allowed to talk | 3 |
| The room itself | 3 |

Variety and choice seem to be underlying themes. Different students have different preferences and Achieve caters for these differences.

8. *How often do your parents sign your plan book?*

| | |
|-----------------------|----|
| Every night | 19 |
| Not often | 3 |
| Don't like signing it | 1 |

What sorts of things do they say about it and your work?

| | |
|-----------------------------|----|
| Nothing | 15 |
| Good things | 4 |
| All right | 3 |
| Check I do homework | 3 |
| Think I am not doing enough | 3 |
| Ask about bad comments | 1 |

The plan book is not therefore a stimulus for parent-child communication or detailed discussion about school-work.

9. *How well are you doing at school this year? Better or worse?*

How do you know?

| | |
|------------|----|
| Better | 16 |
| Same | 5 |
| Worse | 2 |
| Don't know | 1 |

How students know:

| | |
|---------------------|---|
| Grades | 9 |
| Report | 5 |
| Teacher comments | 4 |
| Parents | 1 |
| Amount of work done | 1 |

Students rely on impressions gained from interactions with teachers, report comments and grades. More detailed, diagnostic type information would be valuable to students and teachers alike. (Refer to later teacher interview comments)

10. *What things do teachers say/do that help you most with your work?*

| | |
|---|----|
| Explain things | 12 |
| Check you know what to do/offer to help | 7 |
| Wander around to help you | 6 |
| Quick answer to simple question | 3 |
| Encourage me - tell me I can do it | 2 |
| Let me do it in own pace and time | 1 |

11. *What do you think of the units/work you do?*

| | |
|---------------------------------|----|
| Good/all right | 17 |
| Would like more variety in them | 10 |
| Easy to follow | 7 |
| Rather hard | 6 |
| Maths is hard | 6 |
| Interesting | 5 |
| Good variety | 2 |
| Science is hard | 1 |
| Right level | 1 |
| Easy | 1 |
| Too much to do | 1 |

A few suggestions students made were: like things to think about, prefer variety and smaller amounts of questions (ie rather than 10 questions in a block, break them into two sets of 5 with something different in between), more varied layout, need to know **how** to do it (explanation).

12. *If you could change something in Achieve, what would you change?*

| | |
|------------------------------|---|
| Nothing | 6 |
| Signing plan book less often | 3 |

| | |
|---------------------------------|---|
| More teacher-directed Science | 3 |
| More rooms | 3 |
| Fewer teacher directed sessions | 2 |
| Permission to leave room | 1 |
| Shorter periods | 1 |

Thus, overall students appeared to be satisfied with the programme and its delivery. Only on-going fine-tuning is required to continually improve the programme.

Teacher Interviews

Overall teachers indicated higher satisfaction with the programme than they did in March. There was one exception where the teacher was feeling frustrated and 'flat'. There was some variation in perception of the current workload, with most teachers feeling less pressured in term two than in term one, since the majority of units of work were written. However, a few teachers still felt they were struggling to find time to continue unit writing or modification. Of greatest concern was the thought of modularisation, translation of units to requirements of NZQA (especially after the recent work demands), and assessment requirements. Some time might need to be devoted to teacher discussions on this, but certainly teacher development work.

Many teachers commented on changing teaching styles in Achieve for individuals, rather than whole class groups. Most teachers felt they were now more of a resource provider or facilitator of learning, rather than a teacher as such. A few teachers expressed reservations and feelings of guilt in not 'teaching students enough'.

A common concern was not addressing needs of the slower learners. Unit modifications were needed, as well as more individual time spent with certain students. A couple teachers wondered about the suitability of written units for students with reading difficulties. Further teacher discussion is needed here.

Teachers commented on the reduced number of confrontations or friction between teachers and students in Achieve (choice of rooms allows separation of previous personality clashes). Although there was some variation most teachers believed that the majority of students were working as well or better in Achieve than the 'old system'. A small percentage of students were working less well - a worry to teachers. Like the students, some teachers expressed concern over the contradiction between allowing students to set their own pace of learning and setting deadlines to ensure students work through the syllabus. Further discussion might be needed here.

Teachers believed the main value of Achieve to the students was: developing independence, developing responsibility for own learning and life, working ahead and not being held back by other students, slow learners not being pressured, helping kids at points in their learning where they most need help, different student relationships with teachers, flexibility and motivation. The main limitations were seen as: less daily contact with some students, some students drifting, difficulties with group work

or demonstrations, less discussion and oral problem-solving with other students, students with reading difficulties struggling with the units.

Teacher satisfaction was further demonstrated by the fact that few teachers wanted considerable changes to Achieve. Changes mentioned included: more detailed student planning, needing to guide students more in their planning and time management, view that form two too young for adapting to Achieve. Of high value was the increased professional sharing amongst teachers and discussions concerning 'learning and teaching'. Achieve was thought to be a vehicle for improving staff unity.

SUMMARY OF POSSIBLE DISCUSSION POINTS

1. Dealing with slower learners
2. Pupil conferencing (can be done by more effective use of 'roving teachers')
3. Need to sort out academic and social philosophy
 - seems to be less mixing of classes (due to set classes)
 - under Achieve 'tutorials' ought to be voluntary attendance, with questions and direction determined by students and not teacher-directed sessions
 - learning to get along with other students (social programme) (noted catty student remarks, groups clicking together) Ultimately students select to work with those of similar ability, but is one of the goals to work more together?
4. Students need more guidance in time management and planning. (such as a study skills programme; awareness of learning styles and strategies).
5. Teacher development needed on: student assessment, individual student conferencing, writing of units.
6. Contradiction of 'working at own pace' yet some deadlines set for all students - need to negotiate with students to set appropriate deadlines of their own - ideally done in individual conferences. Need to monitor the amount of work students are doing.
7. Units may need revision to incorporate greater variety of activities - break reading into slightly smaller blocks; less "like textbooks with exercises" and more research work. Units in term one may be more structured and units during the year gradually relinquishing control to students as their study skills increase.

Thank you for your time, openness and responses.
Jenny Poskitt

APPENDIX D

WHS ACHIEVE FEEDBACK - NOVEMBER 1992

Overall students are happy with Achieve. They still value choice very highly and have become more confident in planning and organizing their work. Responses are detailed below.

Q 1. How are you finding Achieve? What do you like about it and the units of work done?

| | |
|---|----|
| Good | 9 |
| Okay | 11 |
| Dislike it | 1 |
| <i>Reasons:</i> | |
| Choice of rooms | 10 |
| Freedom/choice | 8 |
| Various subjects | 7 |
| Research units/projects | 6 |
| Practical activities (especially Science) | 6 |
| Variety | 3 |

Q 2. What do you dislike about Achieve? Units done?

| | |
|--|----|
| Nothing | 10 |
| Too much writing | 5 |
| Too much reading | 3 |
| Boring - need more variety | 4 |
| Teachers say work at own pace but demand set deadlines | 4 |
| Maths | 3 |
| English | 2 |
| Science | 2 |
| Social Studies | 1 |
| Not being allowed to leave room | 2 |
| Teachers' unavailability | 1 |

Q 3. Do you prefer to work by yourself or with others? Why?

| | | |
|-------------------------|---|----|
| Self | 5 | |
| Others | 9 | ** |
| Varies | 7 | ** |
| Get more work done | 6 | |
| Subject differentiation | 6 | |
| Friends help each other | 6 | |
| Like being with friends | 3 | |

Q 4. What have you learnt most from Achieve?

| | |
|--------------------------|----|
| Organizing work/planning | 14 |
| Various subjects | 2 |

| | |
|---------------------------------|---|
| Improved reading | 2 |
| Go to room with subject teacher | 1 |
| Making own decisions | 1 |

Q 5. When you plan your work, what helps you decide what to do?

| | |
|--------------------------------|---|
| What behind in/balance | 9 |
| Usually the same each week | 7 |
| Friends | 3 |
| What I feel like doing | 2 |
| Varies | 2 |
| Teachers I like | 2 |
| Bulletin notices | 2 |
| Look through units then decide | 1 |

Q 6. How do you find the teacher-directed sessions compared with those you plan yourself?

| | |
|-----------------------------------|----|
| Prefer Achieve/plan myself | 11 |
| Like both | 3 |
| Prefer teacher-directed | 3 |
| Okay - they explain things | 3 |
| They talk a lot - it's boring | 3 |
| Make you get work done/learn more | 2 |
| Depends what you're doing | 2 |
| Good for Science | 1 |

Q 7. What sort of things do your parents say about your plan book or your work?

| | |
|--|---|
| Nothing | 9 |
| Ask what I've done | 6 |
| Read and talk about teachers' comments | 6 |
| Check I've done my homework | 3 |
| Just sign it | 3 |
| Think signing is a waste of time | 2 |

Q 8. How well are you doing at school this year? Better/same/worse?

| | |
|--------|----|
| Better | 12 |
| Same | 6 |
| Worse | 3 |

How do you know?

| | |
|---------------------|---|
| Amount of work done | 7 |
| Teachers told me | 4 |
| Unsure | 3 |
| Reports | 2 |
| Grades | 1 |
| Learnt more | 1 |

Q 9. What things do teachers say/do that help you most with your work?

| | |
|-------------------------|----|
| Explain things/help you | 10 |
|-------------------------|----|

| | |
|--|---|
| Open to you asking questions/ don't interrupt you | 4 |
| Rove around room | 3 |
| Tell you to work harder | 2 |
| Make it interesting | 1 |
| Set deadlines | 1 |

Q10. Do you work as hard as you could in Achieve? What helps or hinders you?

| | |
|--------|------|
| Yes | 9 |
| No | 8 ** |
| Unsure | 4 ** |

Help:

| | |
|------------------------------|---|
| Setting goals/deadlines | 4 |
| When teacher says to work | 2 |
| Friends tell you to hurry up | 1 |
| Enjoy unit | 1 |
| Easier in mornings | 1 |
| Reward at home if get SC | 1 |

Hinder:

| | |
|---------|---|
| Boredom | 3 |
| Lazy | 1 |

Q11. If you could change something about Achieve, what would you change?

| | |
|------------------------------------|---|
| Nothing | 9 |
| Length of period -shorten/lengthen | 2 |
| Freedom to leave room | 2 |
| Weekly signing | 1 |
| Open library | 1 |
| Science more teacher-directed | 1 |
| More classrooms and teachers | 1 |
| Set deadlines | 1 |

Key Points from student interviews:

The overall impression is that students are largely satisfied with the programme, feel they have learned better in 1992 and feel more confident in organizing themselves. Students appreciate the choice and freedom of movement and subjects. Although variety is a key factor, they prefer the company of friends to working alone (except if they want to do concentrated work or get more done). Structuring cooperative learning tasks may capitalize on this learning preference.

Friends generate a sense of belonging and comradeship, as well as greater confidence for asking work-related questions of other students. Generally students found it easier to share ideas and found it more fun to work together. However, several students commented that it was easier to get more work done without the distraction of

friends. Providing variety and choice here (of individualized and cooperative tasks) may be the answer. (such as one day a week dedicated to group tasks - hence responding to social needs of students, learning preferences, variety within the Achieve programme and reduction of feelings of isolation or competition)

Students felt more confident in organizing themselves and their work. However, a few still would like teachers to have control and set deadlines for them. Others complained about teachers setting deadlines - in other words, some students have developed responsibility for their own learning, while a few have lower expectations of their work habits than that of their teachers!

Teachers may wish to discuss the following factors:

1. Parent involvement and understanding of the aims of Achieve
2. Establishing cooperative tasks
3. Incorporating more research or practical activities within units
4. More individual conferences with students - especially encouraging them to reflect on their own work; work habits; work productivity; expectations of level and output (in most cases teacher encouragement can probably boost it); in other words encouraging self-evaluation. This will enable students to be more aware of how they are doing.

TEACHERS

Teachers were asked predominantly the same questions as those in August, with only a couple changes. Overall teachers were satisfied with Achieve - 9/11 finding it better than they expected.

Aspects that teachers find *frustrating* include:

- | | |
|---|---|
| * Kids not working/inadequate motivation | 3 |
| * Striking balance between student responsibility for their own learning and encouraging them to work | 2 |
| * Monitoring students | 2 |
| * Lack of student general knowledge | 1 |
| * Infrequent student contact | 1 |
| * Inconsistent teacher philosophies | 1 |
| * Disorganization of other teachers | 1 |

NB Parents were also concerned about the three most frustrating factors for teachers.

Aspects teachers found *rewarding* include:

- | | |
|--|---|
| * Certain students having great success | 3 |
| * Treating students more as individuals | 3 |
| * Writing units | 3 |
| * Better student-teacher relationships | 3 |
| * Majority of students more interested/talk about work | 2 |
| * More time for slow and quick learners | 2 |
| * Positive attitude/greater initiative of students | 2 |

| | |
|--|---|
| * Improved quality of work | 1 |
| * Students choosing work that interests them | 1 |
| * Different age groups working together | 1 |
| * Getting to students' real needs | 1 |
| * Less stressful teaching | 1 |
| * Improved planning - teacher and student | 1 |

Teachers were asked how their *teaching style and role* changed in 1992:

| | |
|---|---|
| * Totally different - less 'out-front'/more individual help | 8 |
| * Doing more practical work | 1 |
| * Giving students more choice | 1 |
| * A little different - always done group/individual work | 1 |
| * More wandering around, solving problems; individual help | 1 |
| * No different | 1 |

In relation to such a changed role, on what *skills* would teachers like further development?

| | |
|---|---|
| * Questioning skills - for teacher and student | 6 |
| * Raising students' expectations/motivation | 3 |
| * Trying to get more variety into units | 2 |
| * Helping students plan their work/set own deadlines | 2 |
| * Computers - wordprocessing and variety for students | 1 |
| * Evaluation | 1 |
| * Developing students' research skills | 1 |
| * Setting work at different levels | 1 |
| * Helping students how to learn | 1 |

The major issue for teachers is helping students with their own learning skills (hence questioning skills, motivation, variety, planning and time management, research....)

What *changes* had teachers noticed in *student behaviour*?

| | |
|---|----|
| * Reduced student-teacher confrontation | 11 |
| * Students tending to cluster in age levels | 2 |
| * Some students working very hard; some slack | 2 |
| * Students generally working better | 2 |
| * Reduced peer pressure - becoming okay to work | 1 |
| * Improved student planning and independence | 1 |
| * Students mostly happier (having chosen unit of work) | 1 |
| * Students more readily help each other | 1 |
| * Students surprise you by what they do/don't achieve | 1 |
| * Less stressful for teachers | 1 |
| * Students plan to be with friends - rather than work needs | 1 |
| * Too much social chit-chat - not working hard enough | 1 |

Implied in many of the above responses are comments on school culture and social

effects, as well as work habits.

What would teachers like to know about the students:

| | |
|---|---|
| * What they like/dislike about the units | 4 |
| * How students find the volume of reading | 1 |
| * How many students do plan ahead | 1 |
| * How much interest parents really take | 1 |
| * What they feel about Achieve | 1 |
| * Student motivation | 1 |
| * How much homework they really do | 1 |
| * How each of them learn best | 1 |
| * How they view the way they are assessed | 1 |

Teachers have a variety of questions! Some of these have been answered by the parent survey and the latest round of student interviews.

How is Achieve of *major benefit to students*?

| | |
|--|---|
| * Learning to be responsible for their own learning | 4 |
| * Planning encourages them to think about their learning | 3 |
| * Reduced stress for students | 3 |
| * Work at own pace and level | 2 |
| * Learnt to plan their work (to varying degrees) | 2 |
| * Becoming independent learners | 2 |
| * Faster kids not being held back | 1 |
| * More time to work on certain subjects | 1 |
| * Greater variety of choice | 1 |
| * More pressure can be applied to students who need it | 1 |
| * Being able to call on a teacher at right learning moment | 1 |

Independence, responsibility for their own learning and organizational skills are thought to be predominant benefits for students.

Teachers were then asked how students were monitored.

| | |
|--------------------------------------|---|
| * Mark unit | 3 |
| * Date unit start/finish; unit title | 3 |
| * Class profiles in staff meeting | 3 |
| * Test at end of unit | 2 |
| * End of year exams | 1 |
| * Tutor conferences 1/month | 1 |
| * Hand in work during unit | 1 |
| * Ensure three units completed/term | 1 |
| * Check students' own plan book | 1 |
| * Set individual deadlines | 1 |

Teachers may need to share ideas on individual monitoring of students, types of

questions to ask in pupil conferences (both formal and informal conferences).

Parent contact was minimal in all cases. Teachers who had received feedback on Achieve believed that generally the opinion was favourable amongst parents. Nevertheless, parent contact and interest in the programme was very disappointing to teachers.

Teachers were then asked what they saw as the main *value and limitations of Achieve*.

Value

| | |
|---|---|
| * Students' freedom to work - pace, place, level, company | 7 |
| * Self-organization skills/independence | 4 |
| * Student input into their learning/responsibility | 3 |
| * Increased student confidence | 1 |
| * Individual development | 1 |
| * Learning how to learn | 1 |
| * Skills for living | 1 |
| * Reduced stress on teachers | 1 |
| * Students achieve to higher standard - not held back | 1 |

Teachers might wish to reflect on how these skills could be further developed in students, such as learning how to learn.

Limitations

| | |
|---|---|
| * Limited group activities/difficulty doing it | 4 |
| * Infrequent contact with some students | 3 |
| * Difficulty determining student's level | 2 |
| * Students not sufficiently motivated | 2 |
| * Coordinating all students' activities | 1 |
| * Time to prepare units; especially multi-level | 1 |
| * Kids talking too much in groups | 1 |
| * Limited oral interaction and discussions | 1 |
| * Too individualistic | 1 |
| * Teachers not relinquishing control | 1 |
| * Students' own self-confidence | 1 |

Teachers are concerned about the need for further group work with students but experience dilemmas doing it within Achieve. Finally, if teachers could change something about Achieve, what would they change?

| | |
|--|---|
| * Nothing at the moment | 2 |
| * Students need guidance on time for units/incentives to work harder | 2 |
| * Modifying units | 2 |
| * Increased parental involvement | 2 |
| * Need more guidance from Principal on tutor planning | 1 |
| * Counselling for some kids on work habits/deadlines | 1 |
| * Reminder of our goals in Achieve | 1 |

| | |
|---|---|
| * Asking how we can make Achieve better | 1 |
| * Seeing class more often | 1 |
| * More units available for students | 1 |
| * Use computers more | 1 |

Generally teachers have found the year interesting and hope Achieve will boost students' self-esteem and achievements. The majority of students were thought to have achieved well; others need motivating.

It was felt that an overall improvement in communication was needed with parents - and this was certainly evident in the parent survey; modification of units (for variety, increased cooperative learning and adjustment to multi-levels); closer monitoring of students (learning styles and skills; work habits; and progress) - again in accordance with parents' wishes.

Conclusion

1992 went very well, considering it was the introductory year of Achieve. Goals for 1993 may consider:

1. Increased frequency and detail of reporting to parents
2. Further explanation and demonstration of Achieve for parents
3. Modification of units:
 - a) Multi-level
 - b) Variety of medium
 - c) Greater use of group tasks/cooperative learning
 - d) Slightly increased choice of topics
 - e) Review of unit directions with 1992 students
4. Teaching of student learning strategies:
 - a) time management/setting realistic deadlines
 - b) experimenting with different learning styles
 - c) study habits - efficiency; variety
 - d) self-motivation - raising expectations
 - e) questioning skills
5. Teacher Development
 - a) questioning skills - own and developing students
 - b) practical monitoring of students
 - c) conferencing skills (learning strategies)
6. Periodic review of goals/philosophy of Achieve
7. Possible consideration of a social skills programme

APPENDIX E

WHS ACHIEVE FEEDBACK - MARCH 1993

Students from form two to form six were interviewed. These 22 students were the same students who were interviewed during 1992. As several students had left the school, numbers were less than the 1992 interviews. The general impression gained was that with only one exception, all students were still happy with Achieve.

Students provided interesting insights in response to some different interview questions, which have implications for the content and organisation of Achieve. This report firstly considers the collated responses to each question and secondly, the implications for practice.

Q1: How is Achieve going for you?

| | |
|---|----|
| Very good | 1 |
| All right | 16 |
| Dislike it (student with learning difficulties) | 1 |

This question was a general one to open up the interview on familiar grounds and provide an opportunity if students wished to elaborate on matters of either great interest or not covered in the interview.

Q2: Last time I interviewed students most of them told me they could work much harder in Achieve than they do. a) Why do students not work as hard as they could?

| | |
|--|----|
| Expectation of teacher responsibility | 13 |
| -Teachers don't have close eye on them | 3 |
| -Too much freedom | 2 |
| -Need to be separated from their mates | 2 |
| -No deadlines | 2 |
| -Too much talking | 2 |
| -Not made to work | 2 |
| Mood - don't feel like it | 8 |
| Don't know | 3 |
| Only do the subject you like | 1 |

Further work on developing student responsibility for their own learning may be necessary here. There is still a large expectation that it is the teacher's responsibility. The question was also an attempt to probe students' understanding of motivation and self imposed expectations. This theme is further pursued in questions below.

b) Is it something to do with the units of work?

| | |
|----------------|---|
| No, Units are: | |
| Interesting | 8 |
| Easy | 4 |
| Don't know | 1 |

Yes, Units are:

| | |
|-------------------------------------|---|
| Boring - do similar things each day | 8 |
| Too hard | 5 |

Opinion was divided here. For some students differentiated units of work are necessary. If units are written at multi-levels then students will not only feel they are capable of doing the work, but they will be prepared to persevere for longer and gain greater levels of satisfaction - thus affecting their motivation levels.

Implied here is a need for variety - not just working on independent units of work all day. An opportunity to attend workshops of various skills, or units with structured cooperative learning activities may stimulate interest levels.

Q3: Sometimes when you are motivated (want to do something) and work really hard, you want to and do get heaps of work done.

a) Do you ever feel satisfied or really pleased with the amount of work you get done?

| | |
|-----------|----|
| Yes | 16 |
| Sometimes | 6 |
| No | 0 |

b) What would make/help you want to work harder?

| | |
|---|---|
| Don't know | 7 |
| No distractions/concentrating/separate from mates | 5 |
| Knowing what to do and that I can do it | 4 |
| Being in the right mood | 4 |
| Easier units | 3 |
| Deadlines/keeping up to date | 3 |
| Teacher explanations | 2 |
| More time | 1 |
| Satisfaction of doing it properly | 1 |

In summary:

| | |
|---|---|
| Concentration/avoidance of distractions | 9 |
| Clear task and confidence in ability | 9 |
| Don't know | 7 |
| Ability in own time management | 4 |
| Intrinsic motivation | 1 |

c) What would happen if you did do more school work?

| | |
|---|----|
| Don't know | 10 |
| Be ahead | 6 |
| Better grades | 3 |
| Learn more | 3 |
| Good comments on report | 2 |
| Opens opportunities for tertiary course/job | 1 |
| Awards | 1 |

Some attention in the social skills programme is needed in terms of: locus of control,

self-concept in relation to ability to tackle unknown work, self-discipline in working alongside others and reduction of social talk. It is amazing to find half the interviewed students did not know what would happen if they did more school work - thus they have minimal intrinsic motivation and have little incentive to work harder for they can see no benefit in doing so. Instead, some students could only see disadvantages - that is, forfeiting 'time mucking around with your mates or friends'. Students need to realize, through talking with teachers and experiencing it themselves, that additional effort and application brings increased satisfaction, feelings of achievement and improved intrinsic motivation.

Q4: a) Are the units of work worth doing (now), or do you think they might be useful when you are older?

| | |
|------------|----|
| Now | 14 |
| When older | 7 |

b) What subject (or work) is hard to understand?

| | |
|----------------|---|
| Science | 8 |
| Maths | 7 |
| English | 4 |
| None | 3 |
| Social Studies | 1 |

c) How could it be made easier?

| | |
|--|---|
| Teacher giving explanations | 9 |
| Don't know | 5 |
| More practical/less writing | 3 |
| More Achieve periods (especially in Science) | 2 |
| Shorter units | 1 |
| Extended deadlines | 1 |
| Units set out differently | 1 |

In summary, the majority of students find the units of work worthwhile. Their main problems are in terms of perceived work difficulty, particularly in Science. Time constraints seem most obvious here - either the writing demands are too great for the students interviewed, or they need assistance with better managing their time in Science. Some students merely need encouragement and a boost in self-confidence to believe that they can cope with the work, or to raise their own expectations (of work output and outcome). As some students feel inadequate, increased opportunities for group work will enable them to pool ideas, reassure and help one another. Students may need training in a variety of cooperative learning strategies in order to work effectively, rather than at a social level only.

Q5: There are lots of ways to learn things (like drawing, asking questions, doing things like experiments, writing ideas on paper, listing points...)

a) Do you know how you learn best?

| | |
|----|----|
| No | 13 |
|----|----|

| | |
|--------|---|
| Yes | 5 |
| Unsure | 4 |

b) Would you like to learn how to learn more easily/learn more?

| | |
|--------|----|
| Yes | 16 |
| Unsure | 3 |
| No | 3 |

The most critical aspect of learning, that is the question of **how**, is neglected in Achieve. The majority of students have little idea about their preferred learning styles or strategies. Until they experience and become familiar with their styles, their learning potential cannot be realized. Their time will be inefficiently spent on techniques that are not suitable learning modes for them. Attention to learning styles and strategies is also needed in the social skills programme (along with a choice of whether to work independently or in collaboration with others).

Q6: What else would you like to learn in school?

| | |
|---------------------|---|
| Languages | 6 |
| Metalwork | 4 |
| Nothing/don't know | 4 |
| Computer Studies | 3 |
| Driving | 2 |
| Maori carving | 1 |
| New Zealand history | 1 |
| Sports | 1 |
| Life skills | 1 |
| Art | 1 |

Some consideration may be given to options like Correspondence or Link Courses, research or community projects for these students. Meeting identified interests may help address the overall motivation difficulty of many students at WHS.

Q7: Some kids give up easily with school work. What helps you to not give up - to keep going?

| | |
|-----------------------------------|---|
| Deadlines/like to keep up to date | 9 |
| Don't know | 4 |
| Feeling in the mood/enjoyment | 4 |
| Anticipation of good course/job | 4 |
| Knowing that I can do it | 3 |
| Grades/exam | 2 |
| Wanting to learn for myself | 2 |
| Knowing what to do | 2 |
| Teacher proximity | 2 |
| Family encouragement and help | 1 |

Students, like adults often need time limits in order to give a task a sense of urgency and thus the motivation to complete a certain task. They may need on-going

assistance with helping to set realistic and attainable time-goals; thus contributing to intrinsic motivation, a sense of achievement and satisfaction. As can be seen again, underlying themes are: self-confidence, concentration and application and perceivable incentives.

Q8: What do you like about working with other students?

| | |
|---|----|
| Share ideas/help each other/reassurance | 14 |
| Quicker to complete work | 1 |

a) Is it just being with them and being able to talk about your friends, TV, who is going out with who, and things you do outside school?

| | |
|-----------|----|
| Yes | 18 |
| Sometimes | 2 |
| No | 2 |

b) Do your friends explain things or just show you the answer?

| | |
|--------------------------|---|
| Explain | 8 |
| Show | 6 |
| None - just like talking | 5 |
| Varies | 2 |

c) Would you like to work on units together?

| | |
|---|---|
| Prefer working with others | 9 |
| Prefer working by myself (concentration) | 9 |
| Prefer variety - sometimes others, sometimes self | 5 |

In order to work effectively in teams or groups, students might need experience in the social skills programme of various cooperative learning techniques, such as working in an interdependent manner, building on and appreciating the contributions of others. Students who opted for working alone stated this preference due to fuller concentration and removal from distractions of others (mainly social chit-chat).

Q9: Some kids find it really hard to ask teachers questions about their work. What would help students to ask more questions?

| | |
|---|----|
| Teachers to go around and ask if you need help | 16 |
| If you know/like the teacher | 5 |
| Don't know | 4 |
| Teachers explain more | 2 |
| Understanding teacher - hard to say where stuck | 2 |
| Increase student confidence | 1 |

Some students remarked that "you feel dumb if you ask questions sometimes and it is not so obvious when a teacher stops at each student and asks them questions."

Q10: Do teachers ask your opinions about Achieve?

Student perceptions were:

| | |
|----|----|
| No | 18 |
|----|----|

| | |
|-----------|---|
| Sometimes | 8 |
| Yes | 1 |

Teachers must be quite subtle in their questioning, or else students have short memories!

Q11: What is different about Achieve this year?

| | |
|--------------------------------------|---|
| Everyone more settled/working better | 5 |
| Nothing | 4 |
| Harder work | 3 |
| More interesting units | 2 |
| More Achieve periods | 2 |
| Less choice of units | 1 |
| Better planning/organisation | 1 |
| Different teachers | 1 |
| Work at own pace - less deadlines | 1 |
| Units set out differently | 1 |
| Better plan books | 1 |

Identified changes were largely perceived as positive.

Q12: What do you still like most about Achieve?

| | |
|------------------|----|
| Choose rooms | 13 |
| Work at own pace | 7 |
| With friends | 5 |
| Options | 2 |
| Unsure | 2 |
| Units of work | 1 |

Thus, students' preferences have remained stable over time. The freedom to select where to work and with whom are the most favoured aspects of the choice of Achieve (incorporated in the room option are preferred teachers and combinations of students).

CONCLUSIONS:

Students are still predominantly positive about the Achieve programme. It is still thought to be well organized and providing choices in location, personnel and order of curriculum work. Now that the programme is established, it is appropriate to deal with underlying issues - the fine tuning to improve learning opportunities for students. These issues are to be thought of as development and challenges - not criticisms!

Identified issues:

1. Need to increase student motivation (refer also to results of March 1993 PAT Study Skills and the Achieve Study Skills and Learning Inventory).
 - a) Need to develop student understanding of their own locus of control (ie that their efforts and effective learning strategies determine how much they learn - not good luck, innate intelligence or good teaching)

- b) Incentives, rewards or achievable goals directly related to their learning efforts
 - c) Ways to deal with 'moods' by learning effective study habits, time management strategies, variety, achievable tasks
 - d) Reduction or avoidance of distractions of other students or their own levels of concentration
 - e) Setting their own achievable time goals, rewards, deadlines to derive satisfaction in learning
 - f) Increased choices over what and how to learn
 - i) Research topics (such as listed under Q6)
 - ii) Greater variety of topics and topic sequence - not necessarily concurrently with the rest of the class
 - iii) Pooling of research skills, learning strategies in cooperative groups - to develop a sense of belonging, contribution of skills to the group, reassurance of capability with learning task, enabling them to question and help one another (this is also in line with the new Mathematics Initiative released April 1 in New Zealand)
 - iv) Development of learning preferences:
 - alone or together
 - visual, oral, kinesthetic, drawing, writing....
2. Study habits and effective use of time
 3. Learning styles/strategies (student motivation - PAT, Learning Inventory)
 4. Attention to research skills: use of encyclopaedia, dictionary, identification of main points, interpretation of maps, graphs and tables, skimming for specific information...

The staff are to be congratulated for their continuing enthusiasm, open-mindedness to identified areas for development. I would like to express my gratitude for their tolerance and flexibility to accommodate the demands of research - over and above the demands of teaching. I am particularly grateful for the smooth organisation and follow-up opportunities in conducting student and teacher interviews.

TEACHER INTERVIEW DATA 19/4/93

Q. 1 How is Achieve going?

| | |
|-------------|---|
| Very well | 5 |
| Reasonable | 2 |
| Not as good | 3 |

A few teachers commented on students being less motivated and working with shorter concentration spans.

Q. 2 How does Achieve compare this year with 1992?

| | |
|-------------|---|
| Better | 5 |
| Similar | 1 |
| Not as good | 3 |

Teachers spoke about a smoother and quicker start to the year with students and

teachers being familiar with the system and expectations. Concerns related to the need for more detailed student planning and higher work outputs. More group work and seminars were also hoped for.

Q. 3 What do you notice about student's behaviour?

Negative comments related to students involved in too much conversation and interruptions, and not settling to work quick enough. On the positive side, teachers remarked on the reduced teacher-student and student-student confrontations, some students avoiding subject teacher rooms.

a) Learning behaviour

| | | |
|---|---|---|
| Taking more responsibility for their own learning | | 6 |
| Better motivated | 2 | |
| More confident about where to get answers | 1 | |
| Setting aims and broader learning goals | 1 | |
| More confident asking questions | 1 | |
| Working on own more | 1 | |
| Some students mucking around - talking; not working as long | | 4 |
| Lack research and comprehension skills | | 1 |
| Difficult to assess how much they are learning | | 1 |

b) Independent learning skills

| | | |
|--|--|---|
| More development needed - especially with research | | 4 |
| Vary a great deal - some very good | | 2 |
| Now ask questions more often; ask for help when needed | | 2 |
| Working more independently | | 2 |
| Have to work more on motivation | | 1 |
| Declined - have to supervise more often | | 1 |

c) Ability to work with others

| | | |
|--|--|---|
| Some do - others just socialize | | 3 |
| Mix more; better working in groups | | 3 |
| Mix in groups but only one does the work | | 1 |
| No change | | 1 |
| Achieve neglects group discussions | | 1 |
| Fifth form good | | 1 |
| Varies - the brighter they are the more they work alone; the less able, the more they sit in groups | | 1 |

d) Work habits

| | | |
|--|--|---|
| Short concentration spans - perhaps 30 mins periods better | | 2 |
| F 5 good | | 2 |
| Doing more homework than in 1992 | | 2 |
| Need to work harder | | 2 |
| Fluctuates depending on day and time of day | | 1 |
| Better but still needs improvement | | 1 |
| Some students set goals too high | | 1 |

| | |
|--------------|---|
| Deteriorated | 1 |
|--------------|---|

e) Mixing of different abilities and age groups

| | |
|--|---|
| Work in own age and ability groups | 5 |
| Mix more - especially boy and girl friends | 2 |
| F2 good; F3 and 4 poor | 1 |
| Little variation - friendship groups stay together | 1 |
| Everyone mixes with everyone | 1 |
| More able students helping less able | 1 |

Considerable variation occurs according to different classroom climates and varied teacher perceptions.

Q. 4 In what ways have you changed as a teacher since first starting in Achieve?

| | |
|---|---|
| Improved facilitator role | 5 |
| Lazier - less preparation | 3 |
| Not much | 2 |
| More individual help | 2 |
| More discussion with students | 1 |
| Improved long term planning | 1 |
| Less pressured | 1 |
| Busier end of term marking | 1 |
| More positive towards Achieve | 1 |
| Still reluctant to let go teacher control | 1 |

Q. 5 In what ways have the units of work developed since the beginning?

| | |
|---|---|
| Very little | 6 |
| Still individualised - need more group work | 1 |
| Theme approach this year | 1 |
| More specific instructions; varied length | 1 |

a) What choices do students have?

| | |
|---|---|
| No choice | 5 |
| Menu guidelines - choices within categories | 3 |
| Two compulsory units; choose from 25 units | 1 |

Teachers who provide no choice spoke of sequential learning in their subject area, concern about students covering specific content for future F5 work, and reluctance to relinquish teacher control.

b) How do the units cater for learners of different abilities?

| | |
|---|---|
| Not catering for them | 3 |
| Students on Correspondence | 2 |
| Give them something simpler to do - videos and art work | 2 |
| Extension activities for more able; help sheets for less able | 1 |
| Give less able students more time | 1 |
| Open-ended units | 1 |

Shorter units for less able students 1

Most teachers felt that more work was needed here.

c) For learners with different learning styles?

Not catering for them 7

Some students do posters and artwork 1

Several teachers commented that they hoped the next term's teacher development sessions would help them address the needs of students with different learning styles and abilities. Many teachers felt inadequate in addressing these concerns.

Q. 6 What parent contact have you had this year?

Not much 6

Poor response to morning tea information session 5

Informally in town 2

Regularly from the same few 1

Basically through planners notes 1

Q. 7 What has happened here as a result of these interview feedback reports?

Focused discussion in meetings 4

As outsider bring objective viewpoint; verbalize thoughts 3

Unsure - up to each teacher to follow-up action 2

Made us think 2

Used as basis of planning 2

Bought more tapes and videos for teaching 1

Some students now on Correspondence Courses 1

Teacher development next term direct result 1

Development of student profile sheets 1

Q. 8 What staff development have you experienced in Achieve during the last year?

Achieve staff meeting discussions 5

Teacher development sessions next term 5

Student profiles made us aware of student needs 1

None 1

Q. 9 What would you like to see happening in the future with Achieve?

Needs to be more varied and exciting 4

The only way to go for our school 2

Needs to have more individualised programmes 2

Need to increase student motivation 2

On-going need to teach students planning skills 1

Wider range of units to cater for different learning styles 1

Increase student work rate 1

Need to improve classroom management skills 1

a) What do you think will probably happen?

| | |
|---------------------------------------|---|
| Incorporation of more group work | 1 |
| More use of computers | 1 |
| Probably the same, but fewer teachers | 1 |
| Consolidation - fine tuning | 1 |

b) What needs to be done to improve it?

| | |
|---|---|
| Study, planning skills for students | 2 |
| Tighten up on monitoring | 2 |
| Need to look at other schools for ideas | 1 |
| Teachers to review units | 1 |
| Staff development is essential | 1 |
| More unity amongst staff | 1 |
| Deeper discussion on what Achieve is | 1 |
| Wider range of units to cater for student needs | 1 |
| More one-to-one teaching | 1 |
| More parents involved in Achieve | 1 |
| Cross-curricular units | 1 |

Q. 10 Is there anything else you would like to say about Achieve?

| | |
|---|---|
| Definitely the way to go for WHS | 3 |
| Feel very positive about Achieve | 2 |
| Appreciated independent viewpoint | 1 |
| Kids feel they have more control and choice | 1 |
| Kids need to be more prepared | 1 |
| Need to work on planning and research skills | 1 |
| Students need to be more responsible for own learning | 1 |

Teachers' overall opinions were favourable about Achieve. Concerns relate to the need for students to concentrate for longer and work much harder. Greater variety of units and individualised units more suited to various learning abilities and styles may contribute to resolution of this difficulty. Perhaps some hint of boredom is evident - teacher development sessions may inject enthusiasm and confidence in skills to develop more appropriate units of work. Acceptance of Achieve is unquestioned.

APPENDIX F

WHS ACHIEVE FEEDBACK - OCTOBER 1993

This feedback report initially provides a summary of recent teacher interview responses. It then includes PAT Study Skill Results of students showing major positive and negative gains. General summary comments are made from Jenny's observational schedules since February 1992, and interview trends over the 20 month period. It is hoped to stimulate discussion and reflection amongst the staff and some possible plans for future action.

Teacher interview responses September 1993

1. How useful were the teacher development sessions for you?

What difference did they make to:

a) *your thinking*

b) *what you have done in your classroom?*

a) Thinking:

| | |
|--|---|
| Great personal stimulation | 3 |
| Very useful | 2 |
| Reassuring about evaluation - less emphasis on ABA | 1 |
| Need to restructure units and in-built evaluation | 1 |
| Too many in too short a time | 1 |
| Good for staff working together | 1 |

b) Classroom:

| | |
|--|---|
| Trying different activities | 2 |
| Have not implemented any of it | 2 |
| Trying group activities | 2 |
| Concentrating on more variety in my units | 1 |
| Used extra release time to prepare resources | 1 |

2. Tell me about the monitoring and evaluation:

(what is happening; the practical hassles..)

a) *of students*

b) *of the Achieve programme*

c) *of your own teaching*

| | |
|--|---|
| Same difficulties we have always had | 1 |
| Needs to be built in to the units | 1 |
| Only monitor assignment work - don't do any conferencing | 1 |
| Skills test at end of each term | 1 |
| Constant feedback is an essential part of the system | 1 |
| Difficulty checking on homework planning and achievement | 1 |
| Have not thought about programme evaluation | 1 |
| Only monitoring of the programme is Achieve meetings | 1 |

3. *How will you collect data about Achieve from now on?*
- Haven't thought about it 2
 - Use PAT data 1
 - Draw on Jenny's questionnaires and evaluations 1
 - Liaise with QEC 1
 - Maybe a cross-curricular activity - the principal loves that 1
4. *What is it about Achieve that worries or frustrates you?*
- Need to improve our monitoring 2
 - Some teachers need greater motivation/willingness to change 2
 - Lack of leadership and vision from principal 2
 - Staff not implementing agreed changes from staff meetings 2
 - Students not developing independence 1
 - Concern that some basics not being learnt 1
 - Catering for needs of slower learners 1
 - Catering for needs of senior school 1
 - Easy path option - teachers tend to be lazy 1
 - Students not doing homework or long term planning 1
 - Lots of kids getting away with doing the minimum 1
5. *What do you find rewarding about Achieve?*
- Students learning more slowly but more thoroughly 2
 - Reduced teacher/student conflict - better relationship 2
 - Some students happier and faster progress 2
 - Students' ability to organize themselves 1
 - Easy to accommodate new students 1
 - Easier to cater for students at different levels 1
 - Being able to offer a choice of subjects in a small school 1
 - Slow learners can work at a suitable pace 1
6. *How are you catering for the needs of slower learners?*
- We are not - relying on Correspondence Courses 2
 - By giving them longer to complete units 2
7. *In the recent student interviews, some students commented on the contradiction in Achieve of being able to work at your own pace, yet teachers are setting assignment deadlines. Would you like to comment on this?*
- Some teachers obviously not fulfilling contract by not conferencing with students 5
 - Should be negotiated at tutor conference time 4
 - Deadlines should be personal rather than general 3
 - We need to look at ways of we can reorganize conferencing 1
 - Ideal goal is IEP for every student 1
 - I check on their plan books informally 1
 - I give students approximate time for units but indicate that how long it takes will vary with individuals 1

8. *Several students stated that they would like to be able to choose between working on their own or with other students for units of work. This choice was seen as a way to change the monotony of independent work or as a learning style preference. What do think of the idea? Practicalities?*

| | |
|--|---|
| It is a case of negotiation - should be able to do it now | 2 |
| Intend to incorporate group work - maybe one day a week or second half of the period | 2 |
| Students ought to be encouraged to allocate tasks to others in a group | 1 |
| Fine - might need to monitor undesirable groupings | 1 |
| Working on research units for fast learners | 1 |

9. *The impression gained from students, third formers especially, is that some of them no longer have choice over where to work - they are required to go to their subject teacher. Nor do they have a choice of topics in Maths, Science, or in some cases, Social Studies. The basis of Achieve is supposed to be student choice and increasing responsibility for their own learning. What guidelines are students currently needing?*

| | |
|--|---|
| Students had their choice restricted for a term when they were not getting work done | 3 |
| Science and Social Studies ought to have lots of choice | 1 |
| My monitoring ensures students do the work | 1 |
| Maths is sequential learning, but they do have choice over extra work | 1 |

10. *Can we just review a few recommendations for 1993 and update me on what has been trialled or where changes have been made?*

a) Explanation of Achieve and more detailed/frequent reporting to parents

| | |
|---|---|
| Produced new booklet on Achieve for parents (based on QHS) | 2 |
| Reporting is still the same as previously | 2 |
| Morning tea and viewing of programme for parents (term one) | 2 |
| Students accompanying parents to parent interviews | 1 |
| More written reports only means more work for us | 1 |
| The plan book is great for communicating with parents | 1 |

b) Modification of units:

Multi-level

Variety of activities/tasks

Greater use of group tasks/cooperative learning

Increased choice of topics

| | |
|---|---|
| Very few multi-level units | 3 |
| Slightly increased variety in activities | 2 |
| Not a lot of group work occurs | 2 |
| Gradual increase in choice of topics | 2 |
| Beginning to use group tasks | 1 |
| Started to produce multi-level work (maths), choice of research topics and cooperative activities | 1 |

- c) *Teaching of student learning strategies:*
time management/setting realistic deadlines
study habits - efficiency; variety
self-motivation - raising student's own expectations
questioning skills
- Need more 2
Tutor teacher responsibilities - not being fulfilled 1
Students asking more questions 1
Student work expectations could be higher 1
Teach them all the time (tutor and subject time) 1
- d) *Teacher development*
questioning skills (own and students)
practical monitoring of students
conferencing skills (learning strategies; feedback)
- Teachers need help with conferencing skills 2
More needed - training and practice of skills 1
Treat students more on individual basis 1
Valuable development sessions 1
- e) *Offering a range of voluntary tutorials for group discussions*
- Two teachers have tried it 2
Students don't have the ability to cope with them 1
Am offering additional tutorials on Saturday mornings 1
- f) *Periodic review of goals/philosophy of Achieve*
- Attempt to but often ends in waffle 3
Needs tighter organisation and timeframe 1
Needs to be looked at 1
- g) *Possible consideration of a social skills programme*
- One teacher covering topics in each of the tutor groups 4
11. *What other changes have occurred in Achieve since the beginning of 1992?*
- F1 currently being introduced to Achieve 1
New units being developed 1
Don't know 1
No radical changes - established now 1
Students generally operate on a set pattern (own timetable) 1
Fewer teacher-directed classes in middle of term 1
12. *Do you notice anything different in:*
a) *students/teachers' language - ways of talking?*
b) *students/teachers' ways of doing things?*
c) *students/teachers' organisational skills?*
- Students and teachers exhibiting better planning skills 4

| | |
|--|---|
| Students friendlier | 2 |
| Less student/teacher confrontation | 2 |
| Talking to individuals rather than the whole class | 1 |
| Students more open and offer ideas | 1 |
| Students have more to say about their work | 1 |

13. What has changed in your school organisation?

| | |
|---|---|
| Nothing | 2 |
| Not enough - school bus cessation might allow changes | 1 |
| Saving a lot of money not needing relievers | 1 |

14. What would you like to change about Achieve in the future?

| | |
|---|---|
| Need closer monitoring of students eg fortnightly; homework | 2 |
| Teachers let go more | 1 |
| Extend to F7 | 1 |
| More cross-curricular units | 1 |
| More open and free with real choice | 1 |
| Finding a balance between individual and group work | 1 |
| Raising kids expectations | 1 |

15. Can you think about Jenny's involvement in Achieve -

a) What has been least valuable/difficult about it?

b) What has been the greatest value?

| | |
|---|---|
| Valuable feedback - looking at ourselves | 3 |
| Independent perspective | 2 |
| Invaluable professional assessment and advice | 2 |
| Determining failings/successes, where we need to go | 1 |
| Students give you valuable comments that they wouldn't to us | 1 |
| Initially kids scared to come into the room with you, but now quite happy with you | 1 |

16. Is there anything else you would like to say about Achieve?

| | |
|--|---|
| Committed to it | 1 |
| Hope it continues | 1 |
| Teachers reluctant to reflect on Achieve perhaps partly due to impact of other curriculum changes | 1 |
| Reduces pressure of daily teacher planning and discipline | 1 |

Study Skills Results

1. Students who showed **positive** gains between 1992 and 1993 with *both tests: Knowledge and Use of Reference Skills and Reading Maps, Graphs and Tables*

Names were listed for the school - removed from Ph.D for reasons of confidentiality.

2. Negative gains

Although test information needs to be supplemented with observational data, interviews and other evaluation material, the indications here are that Achieve is

highly appropriate for some students and not for others. Results for all other students suggest that Achieve is certainly not detrimental for them, but increasing individualised units may help them make more dramatic improvements. More detailed data should be available early 1994.

Changes noted in Jenny's observational notes

1. Teachers ease at continual roving of the classroom (with the exception of one teacher)
2. Students' ease and frequency in asking questions of teachers and fellow students.
3. Students' more specific questioning - pinpointing exactly where they want assistance and expressing feelings eg "I'm confused" "I'm unsure how to answer this question"
4. Student culture no longer a sense of being dumb if you ask questions - questions now considered natural part of lesson time - partly because they can ask them more privately rather than in front of the whole class.
5. Teachers responding more accurately to student questions - rather than telling students to read the passage or read it again, teachers now more frequently provide a succinct explanation - ie distinguishing between student confusion over what the question is asking and what content the question is seeking.
6. Teachers spending more time explaining or discussing work with individual students rather than management/planning concerns. (Is this why student concern has declined about planning - because teachers give less attention to it, or because the mechanics of it are now established?)
7. Increased enjoyment of school since students can avoid students or teachers they do not like.
8. Increased social talk between students
9. Less concentrated time on task
10. Increased copying of data from books/ units - but are they learning when much of the time is simultaneously spent in idle chatter with their neighbour?
11. Increased ease of teachers in relating to individual students.
12. Teachers more relaxed about students helping one another.
13. Increased monitoring - eg profile sheets; self-evaluation forms eg J's science sheets; R's record keeping
14. Teachers gaining increasing control again of student learning - set classes, encouragement/compulsion to attend subject teacher classes; unit deadlines; restricted unit choice
15. Minimal change in the number and type of individualised units, or individual projects/research topics
16. No adjustment for students who genuinely prefer to work **with** others (not merely alongside them) ie cooperative learning
17. No adjustment of environment or units for different learning styles.
18. Minimal increased conferencing of students - negotiating dates, unit choices, increasing responsibility for one's own learning.

Student Interview Summary Analysis

In considering all of the student interview summaries several trends emerge. These will be considered in three parts:

- a) trends that declined from early 1992 to end of 1993*
- b) trends that remained relatively stable over time*
- c) trends which increased from early 1992 to the end of 1993*

a) trends that declined from early 1992 to end of 1993

- * teacher unavailability - students became accustomed to seeing teachers at various stages during the week, rather than at traditional periods; also increasing understanding of staffing patterns
- * planning concerns - concerns expressed in the initial interviews were of little consequence by the end of the interview schedule (working out what to do, keeping up to date, sticking to plans, constructing pie charts, parents signing planning)
- * gradual decline in enthusiasm for Achieve from great to okay (happened at QHS also) and with all innovations as the novelty wears off and resource implications restrict former ideals
- * choice is gradually taken for granted

b) trends that remained relatively stable over time

- * seeking of teacher help and explanation

c) trends which increased from early 1992 to the end of 1993

- * increase in student criticism of programme
- * desire for improved skills in research
- * perception of mismatch between ability and difficulty of work - ie work not suiting individual learning needs
- * stronger preference for being with particular teachers - either for their personality, approachability, or style of explanation
- * greater desire for group activities with other students
- * preference for activity-based rather than reading/writing exercises
- * boredom with routine/units/working alone
- * preference for particular rooms (changed from awareness of being with friends and subject demands to teacher preference)
- * desire for own topics; own setting of pace (while teacher trends is increasing teacher setting of deadlines)
- * more ideas on own topics/research

Teacher Interview Summary Analysis

- a) trends that declined from early 1992 to end of 1993*
- b) trends that remained relatively stable over time*
- c) trends which increased from early 1992 to the end of 1993*

a) trends that declined from early 1992 to end of 1993

- * Concerns about workload in unit preparation
- * Concerns about one-to-one teaching
- * Student work habits in the library
- * Students inadequate planning
- * Awareness of changed role as teacher to facilitator
- * Guilt in 'not teaching' students

- * Teacher unity and sharing of ideas
- * Need to increase choice of units

b) trends that remained relatively stable over time

- * Desire for teacher development on student monitoring, student conferencing, more varied units
- * Catering for slower learners
- * Frustration not seeing certain students regularly
- * Frustration with inadequate student monitoring
- * Need to modify units
- * Difficulty setting up discussion groups
- * Some students not working at optimal level
- * Frustrations in monitoring students
- * Desire to increase students own expectations
- * Concern about student motivation

c) trends which increased from early 1992 to the end of 1993

- * Confidence in writing units
- * Improved student/teacher relationships
- * Contradictions of students working at their own pace and teacher deadlines
- * Dissatisfaction with inadequate support and leadership from principal, and reduced staff unity in implementing principles of Achieve

Variable teacher satisfaction - at its height end of 1992; two teachers now more satisfied; two others frustrated.

Need for discussion on Achieve philosophy

Suggest reviewing the philosophy as set out on three pages in the red Achieve handbook

Possible discussion points for staff

1. Pace of learning - dilemmas here with students having lower expectations than staff; teacher expectation of completing syllabus
2. Students enjoying the choice of where and when to work; teachers wanting to monitor students and requiring them to attend teacher-directed classes
3. Students needing individualized units; inadequate teacher time and evaluation data to do this
4. Students wanting to work with others for company and help; teachers concern about copying and socializing
5. Teachers perceive Principal has lost interest in Achieve since he rarely visits classrooms now
6. Achieve suited to adopt new innovations; teachers concerned about workload of modularisation, NZQA and NZQF requirements; polytechnic competition
7. Teachers state in interviews the central importance of conferencing yet few doing it regularly

APPENDIX G

| Summary of Teacher Interviews November 1992 | | | | | |
|--|--|---|--|--|--|
| Teachers | A | B | C | D | E |
| Q1. How is the Achieve programme going? | On whole gone well - better than expected. | Unhappy way things gone - unsure whether Achieve system or kids. | Overall good. Any system has problems. Better as Ss become more familiar. | Better than expected. Great success. More freedom of learning. | Find extra T supervision unnecessary - numbers do not warrant it. |
| Q2. What aspects do you find: a)frustrating? b)rewarding? | a) Not seeing class often enough. Unsure at which level unit pitched. b) Completing unit prep; Ss excelling | a)S mot. Some Ss with ability not producing; slower Ss progressing well. b)Wg units, tests, helping Ss who ask | a) Controlling apparatus. Ss care inadequate in lab. b) Better S-T rels More work-talk & initiative. Ss do practical work. | a) Inconsistent T philosophies. b) Indiv lg & pace. Making units open-ended. | a) Ts disorg. Don't help indiv Ss. Poorly org units. Difficult for slow readers or poorly mot Ss b) Ss ahead. |
| Q3. How does your tg style differ this year? Has your role as a T changed? | Very diff- from T dominated talking at front to helping indiv. Less use of blackboard and more photocopying. | Totally diff. Was very T. dominated with everyone doing same thing in classroom at the same time. | A lot. Much less 'lecturing' & more wandering around, solving problems, giving assistance when requested. | More a facilitator. More marking. | Not really applicable. Need more direction from the P - too open. We need more guidance. |
| Q.4 On what skills would you like more devel? | Setting work at diff levels. Q.ing skills (Bloom's taxonomy) Developing Ss research skills. | Motivating Ss | Helping Ss how to learn. | Developing Ss questioning skills | Not applicable since only assist in Achieve supervision periods. |
| Q.5 What aspects of Ach have been discussed in recent mtgs? Changes? | If Ss progressed better in Achieve - varies amongst indiv Ss. Mtgs in general - frequency & content. C - Weekly pt signing, tg study & planning skills, more gp work. | Extensive - discussion on JP's last report & P's points. Consolidation & refinement. | Eval of form levels. Philosophy of Achieve (most similar - org, plan book, Ss resp for own lg). C - More help for less able Ss (tapes, A/V, computers). | JP report & philosophical basis. Coming back on line from tangent. Need more pt involvement. | Mtgs too long (S.evaluations). Need reorg of mtgs & staff listening to each other. |
| Q.6 What changes have you noticed in S beh? Ss working harder? Lg more? | Better beh, less confrontations with Ss & Ts. Increased planning & S indep. Ss mostly happy & willing to work bec chosen unit. | Improved in general. Rels bet Ts & Ss better. Ts now rarely criticize problem Ss. | Generally working better. Abuse each other less. Assist each other more readily. Some Ss surprise you by what (or what not) achieved. | Better Ss rels. Talk more about their work. Less stressful for Ts. Better organized now. | Reduced confrontation. Ss plan night before & tend to go around diff clms with friends - not for lg but just security of being with friends. |
| Q.7 What would you like to know about the Ss? | How they find all the rg. How many Ss do plan ahead. | What they would like to do. What they liked or disliked. | Blank | How interested pts really are. What Ss feel about Achieve & like. What Ss think of units. | Too much social chit-chat. Not working hard enough. |

| Summary of Teacher Interviews November 1992 | | | | | |
|---|--|--|---|---|--|
| Teachers | A | B | C | D | E |
| Q.8 What have been the major benefits for the students? | Work own pace, level & company. Planning encourages them to think about their work & become more indep. Greater variety of choice. Should be closer contact with home. | Lg to be resp for their own lg. Learnt to plan their work (varying degree of detail, but all learnt something). | Taking resp for their own work. | Taking resp for their own work. Being indep learners. Looking over previous work done and trying to do better. | Faster Ss not being held back. Every S can work if s/he wants to. A lot of Ss not motivated to work alone. Many just idling along. |
| Q.9 How are Ss monitored? | Mark unit & test at end of unit; end of year exams. Tutor conferences (1x/month). Form level staff evaluation. | Hand in work during unit; test at end of unit; book marked at end of unit & composite grade awarded. Ensure 3 units completed each term. | Blank - covered by previous T. | T has folder book. Page for each S & record each unit done & mark. Date beg & return of unit. Mark on: org, time, depth Qs, originality, accuracy. | Not applicable |
| Q.10 What parent contact have you had? | Not a lot. Some pts very good at wg notes in plan book. Disappointing feedback level, but positive. | Only at parent-teacher interviews. All very positive. | None | Disappointing lack of parental interest. | Minimal. Would like to have Ss at pt interviews & less formal with food etc & away from school; maybe at marae. |
| Q.11 What do you see as the main values and limitations of Achieve? | <u>V</u> - Ss work at own level. No beh problems Less stress on Ts <u>L</u> - See Ss infrequently. Knowing what is real S's level. | <u>V</u> - Ss being resp for own life <u>L</u> - Ss not motivated | <u>V</u> - Ss taking resp for own work <u>L</u> - Unable to take a big gp or class. Coordinating all S's activities. | <u>V</u> - Ss work own pace. Achieve to higher std, not held back by other Ss. T more of helper. More indep lg. <u>L</u> - Time to prepare units, esp diff levels. | <u>V</u> - Kids have opportunity to work ahead. <u>L</u> - Kids not motivated. Talk to much in gps. |
| Q.12 What would you like to change about Achieve? | See class more often. More units available for Ss. | Nothing - based on sound educational theory. | Shorten units of work. Use computers more. More pt involvement. | Pleased with way going & developing. Pts' attitude | Provide guideline dates/time units should take for Ss. |
| Q.13 Is there anything else you would like to say about Achieve? | Nothing | Found it a very interesting year. Want to try it again on a diff class before making decision on Achieve. | Nothing | Hope Achieve will boost Ss self-esteem and achievements. | Need to improve our communication with pts. Ts should deliver reports, should post newsletters to ensure they get home. |

Second section of table - different teachers.

| Summary of Teacher Interviews November 1992 | | | | | |
|--|---|--|---|--|--|
| | F | G | H | I | J |
| Q1. How is the Achieve programme going? | Still good. Ss might need more variety, esp. in term three. | Still like it. Worries now overcome (eg I do gp work for a week). Perhaps too much rg & not enough talk. Less stressful for Ts. | Good | We will tell by form 5 results in January. Ss seem to enjoy it. Next year I'll give them more variety eg gp work. | Relaxing - completed work - now just need to revamp units. |
| Q2. What aspects do you find: a) frustrating? b) rewarding? | a) Ss not working & harder to make them in Achieve b) Most interested in work; ask for help view T as helper rather than T. Get through sats. amt of work. Improved quality of work. | a) 5th form lack of gen knowl. b) Ss choosing & developing units in diff ways. Seeing them think & doing what interests them. Treating Ss as indivs & more in control of their own lg. | a) Fine line bet directing & S control eg work deadlines. Trying to have variety - diff. to include gp work b) More time for slow learners, accelerating bright Ss. Diff ages help each other. | a) Balance bet. resp for their own lg & encouraging them to work. b) Spending time with indiv Ss, extra voluntary revision sessions, tg real needs, less stress | a) Not being vigilant enough checking Ss' planning & work habits. b) Ss improved planning & +ve attitude towards units. Improved my planning. |
| Q3. How does your tg style differ this year? Has your role as a T changed? | Considerably different. Less talking out front. Now more of a helper and indiv T. Plan better. | Less T talking. More hands on work with Ss. Giving Ss more choice. Grading more for skills. | Totally different. Don't teach from blackboard anymore or whole class. | Yes & No. Always done something tog with class & then split to do indiv tasks. Would like novels on tape for slower readers. | Considerably less T talk & more indiv help. |
| Q4. On what skills would you like further development? | Helping & encouraging Ss in Q.ing skills. Greater use of computers - word processors & variety for Ss. | Q.ing skills Evaluation skills Getting more variety into units - not just rg eg tapes, computers. | Q.ing skills. Helping Ss plan work. Need to help Ss set deadlines & increase their expectations of what they can do. | S. Q.ing skills. Increase their mot beyond W. town vision. Skill of focusing, concentration. | Developing Ss questioning skills |
| Q5. What aspects of Ach have been discussed in recent mtgs? Changes? | Philosophy & goals. Quite diverse views amongst Ts eg broaden vs extend bright Ss. More variety into prog. C - Plan book - space for more detail. Try to improve goal setting ability. | Philosophy. Need more direction from the top. Ts unsure of what P. means or wants by planning ahead & detail. P. good in allowing us freedom to grow & express ourselves. Discuss your list. | Planning - P. expects more detail eg what intend to finish. Ts think Ss done well in first year of prog. Want to use computers & video more, gp work, seminars, & problem solving. | Need to tighten philosophy. Own roles. Needing tighter monitoring of Ss. Need to offer seminars, cross-curricular units. Need more pt involvement. C - modify units | Planning S motivation & work habits Deadlines C - Offering seminars, more indiv units for slow learners. |
| Q6. What changes noticed in S beh? Are Ss working harder? Lg more? | Reduced confrontation | Reduced confrontation bet Ts & Ss. Ss tend to cluster in form levels eg F2 tog, F3 & F4 tog. | Less fights & confrontation T-S. Need to help Ss set own deadlines. Some Ss work very hard; some slack - depends on indiv. | Less conflict. Ss cluster as a class. Some Ts more relaxed - not expecting Ss to work every minute of the day. | Many working harder. Reduced peer pressure; okay to work & do homework. Less T-S confrontation. |

| Summary of Teacher Interviews November 1992 | | | | | |
|---|---|---|---|---|---|
| | F | G | H | I | J |
| Q7. What would you like to know about the Ss? | What kids don't like about particular subjects | Nothing | How much homework they really do | How each of them learn. How they view assessment. | What they think of the units. |
| Q8. What have been the major benefits for the Ss? | Resp for own lg. Have to plan & think about what doing. More time to work on units | Less stress for Ss (Some Ss need more pressure to do homework) | Uniqueness. Their developing planning skills (real plus for any employer). | Ss call on a T exactly when needed them & get help they want. More relaxed atmosphere. More pressure applied to Ss who need it. | Work habits. Pride in own achievements. Indiv expectations of indiv Ss - less pressure for them. |
| Q9. How are students monitored? | Class profiles in mtgs. (Up-to-date, ask Qs, conduct; attitude continuum of subject strengths & comment). Dean looks at problem Ss. Review form 2x/term. | Blank | Keep record of every set done, speak to them if getting behind. Some Ss had to finish units in the holidays - others got behind & did not cover course for SC | Kept book of units needing to be done & ticked them off as Ss completed them -gave them SC question at end of each unit. Their own plan book. | Setting individual deadlines. |
| Q10. What pt contact have you had? | Very little | See them down town | None | Very little | Very little Don't know |
| Q11. What do you see as the main values and limitations of Ach? | <u>V</u> - values outweigh limitations. Work own pace. Ss who want to & have ability can work. <u>L</u> - Limited oral interaction & discussions. Ltd activities. | <u>V</u> - Indiv development. Increased confidence. <u>L</u> - Losing contact with some Ss (control). | <u>V</u> - Planning <u>L</u> - Too indiv - need gp activities too. | <u>V</u> - Self-org. skills, lg how to learn, skills for living. <u>L</u> - Ts not creative enough or letting go. Ss own self-confidence. Difficulty doing gp work. | <u>V</u> - S input. Choosing own env. Work at own pace. <u>L</u> - Keeping tabs on Ss - some very slack, knowing their potential. |
| Q12. What would you like to change about Achieve? | Nothing at the moment. | Ss need guidance on time to spend on units & incentive to work harder. Need more guidance on tutor planning from P. | Counselling for some Ss on work habits - deadlines. | (See earlier comments) | Reminder of goals in Achieve. How can we make this work better - keeping this point in mind. |
| Q13. Is there anything else you would like to say about Ach? | Nothing | Nothing | It is good. Proud of what we have done. For majority of Ss it has been a success. Can help the few others. | Very good system. Ts need to be freer - less straight-jacketed. Some Ss have really blossomed - a phenomenal year. | Change in S attitude - like coming to my class now. Less confrontation. |

NB. T = teacher; Ts = teachers; S = student; Ss = students; P = principal; Ach = Achieve; Qs = questions; tog = together indep = independent; resp = responsibility; ltd = limited; indiv = individual; gp = group; env = environment; org = organisational; lg = learning; wg = writing; rels = relationships; diff = different; mtgs = meetings.

APPENDIX H

WHS ACHIEVE PARENT SURVEY 1993

The purpose of this survey is to get your views, as parents (or caregivers), on how Achieve is working. Your individual answers are confidential to the researcher; but she will tell the school about the main trends so they can include changes in next year's programme.

Please post the survey in the attached envelope (no stamp required), as soon as possible.

Thank you for your help.

Jenny Poskitt Massey University

Your child's name: _____

Mother/Father/Other

Directions: Please show your opinions by circling a number on the scale provided. There are no right or wrong answers.

1. As a parent I like the idea of my child being able to make choices in learning

| | | | |
|-----------------------|--------------|-----------------|--------------------------|
| 1 | 2 | 3 | 4 |
| <i>strongly agree</i> | <i>agree</i> | <i>disagree</i> | <i>strongly disagree</i> |
| 5 | 23 | 1 | 4 |

2. I believe Achieve is the right programme for my child(ren)

| | | | |
|-----------------------|--------------|-----------------|--------------------------|
| 1 | 2 | 3 | 4 |
| <i>strongly agree</i> | <i>agree</i> | <i>disagree</i> | <i>strongly disagree</i> |
| 7 | 12 | 10 | 4 |

3. Signing the plan (yellow) books each week is:

| | | | |
|--------------------|---------------|------------------------|-------------------|
| 1 | 2 | 3 | 4 |
| <i>very useful</i> | <i>useful</i> | <i>a waste of time</i> | <i>a nuisance</i> |
| 9 | 14 | 9 | 1 |

4. The plan book gives me feedback on how my child is doing at school

| | | | |
|-----------------------|--------------|-----------------|--------------------------|
| 1 | 2 | 3 | 4 |
| <i>strongly agree</i> | <i>agree</i> | <i>disagree</i> | <i>strongly disagree</i> |
| 10 | 10 | 8 | 5 |

5. The plan book helps me to talk with my child about what he or she is doing at school

| | | | |
|-----------------------|--------------|-----------------|--------------------------|
| 1 | 2 | 3 | 4 |
| <i>strongly agree</i> | <i>agree</i> | <i>disagree</i> | <i>strongly disagree</i> |
| 6 | 17 | 8 | 2 |

6. I think the work my child is asked to do is:

| | | | |
|----------------------|--------------------|--------------------|-----------------|
| 1 | 2 | 3 | 4 |
| <i>too difficult</i> | <i>rather hard</i> | <i>about right</i> | <i>too easy</i> |
| 1 | 3 | 24 | 4 |

7. I believe that my child is receiving enough help from teachers

| | | | |
|-----------------------|--------------|-----------------|--------------------------|
| 1 | 2 | 3 | 4 |
| <i>strongly agree</i> | <i>agree</i> | <i>disagree</i> | <i>strongly disagree</i> |
| 1 | 19 | 6 | 7 |

8. I think that my child finds school rather boring

| | | | |
|-----------------------|--------------|-----------------|--------------------------|
| 1 | 2 | 3 | 4 |
| <i>strongly agree</i> | <i>agree</i> | <i>disagree</i> | <i>strongly disagree</i> |
| 7 | 11 | 12 | 3 |

9. My child could work much harder at school

| | | | |
|-----------------------|--------------|-----------------|--------------------------|
| 1 | 2 | 3 | 4 |
| <i>strongly agree</i> | <i>agree</i> | <i>disagree</i> | <i>strongly disagree</i> |
| 8 | 18 | 6 | 1 |

10 My child could do more homework

| | | | |
|-----------------------|--------------|-----------------|--------------------------|
| 1 | 2 | 3 | 4 |
| <i>strongly agree</i> | <i>agree</i> | <i>disagree</i> | <i>strongly disagree</i> |
| 11 | 13 | 4 | 5 |

11. I would like to know more about my child's progress at school

| | | | |
|-----------------------|--------------|-----------------|--------------------------|
| 1 | 2 | 3 | 4 |
| <i>strongly agree</i> | <i>agree</i> | <i>disagree</i> | <i>strongly disagree</i> |
| 7 | 2 | 20 | 4 |

12. I would like to know more about Achieve

| | | | |
|-----------------------|--------------|-----------------|--------------------------|
| 1 | 2 | 3 | 4 |
| <i>strongly agree</i> | <i>agree</i> | <i>disagree</i> | <i>strongly disagree</i> |
| 2 | 7 | 18 | 6 |

13. The things **I like most** about Achieve are:

| | |
|---|---|
| * Children work to their own ability (and pace) | 8 |
| * Nil | 3 |
| * Independence/ responsibility for own decisions/planning | 3 |
| * Allows students to disassociate with troublesome peers | 2 |
| * Knowing your child's progress | 2 |
| * Participating with others | 2 |
| * To be extended; involves parents by helping with units | 1 |
| * Choices | 1 |
| * Can be tailored to each students needs | 1 |
| * Keeping a check on work | 1 |
| * If off school through accident/illness school work kept up to level | 1 |
| * Lets me know when my child is not at school | 1 |
| * You have a chance to see what is going on at school | 1 |
| * It should give my son more incentive to learn | 1 |
| * Children work hard on subjects they prefer | 1 |
| * Kids not being held up, or pushed too fast | 1 |
| * No answer | 9 |

14. The things **I don't like** about Achieve are:

| | |
|---|----|
| * Given less motivated students more opportunity to waste time and under-achieve; dodge subjects don't like | 4 |
| * Insufficient help from the teachers/lack of supervision | 4 |
| * If student stuck on a subject the subject teacher isn't there | 4 |
| * Nothing - really like Achieve | 3 |
| * Less work for teachers | 2 |
| * Maybe not enough teacher initiated direction and class input or discussion as a whole team | 1 |
| * Children need that extra push at times to work to ability | 1 |
| * Everything | 1 |
| * Pushed over her limits of learning - doing form 5 maths in F4 | 1 |
| * Children should not be allowed to decide what they are doing and left alone | 1 |
| * The amount of homework and the lack of teacher help | 1 |
| * Deadlines set do not suit | 1 |
| * Some not working to potential - too shy to ask for help | 1 |
| * No answer | 12 |

15. The things I would like **changed** next year about Achieve are:

| | |
|--|---|
| * Would like to see old system back | 4 |
| * Nothing | 3 |
| * More teacher involvement and guidelines set for students | 2 |
| * Some regular occasions of getting together as a class group for teacher initiated discussion/follow up etc | 2 |

- * Closer check on where kids are at. Harder to motivate them to catch up if they fall too far behind their potential 2
- * More rooms open at times eg. Tuesday 1st period 1
- * More special time for students who have trouble reading - yet son managing some of his subjects despite handicap 1
- * Will change school if Achieve continues. Achieve = no structure, no goals, no limits. Social, academic and personal development needs pursuit, not glide time. Schools are not a babysitting area with light entertainment. 1
- * The yellow plan book ie 11-15 October only one teacher comment. Are these teachers really interested in this programme? To me students need continual encouragement to build learning and confidence skills. 1
- * Gives the parents a good idea how they are working 1
- * What's happened to working at your own pace? Kids are having to hand in sets uncompleted in some subjects because deadlines are being set. Unless there is information fed everyday into the yellow books from teachers it is an absolute waste of time. 1
- * That teachers give students less homework or assignments to do in school holidays so they don't have to do homework every **day** of the holiday. 1
- * They should have a set timetable 1
- * Quite often when child asks for next set when the other one has been completed the answer is always "it hasn't been printed yet" 1
- * No answer 11

APPENDIX I

| Table I.1 Teacher Interview Developmental Trends | | | | | |
|---|--|---|---|------------------|--|
| | March 1992 | August 1992 | November 1992 | April 1993 | September 1993 |
| <p>What aspects do you find challenging (C); frustrating (F); rewarding (R)?</p> <p>amt = amount S = student Ss = students T = teacher Ts = teachers gp = group pt = parent pts = parents indiv = individual wg = writing bet = between +ve = positive rels = relationships lg = learning mot = motivation resp = responsible</p> | <p>J-C-not seeing Ss regularly F-not seeing Ss R -none yet</p> | <p>J-C-motivating Ss to do more work & achieve F-motivating kids R-less able kids working hard</p> <p>D-C-devising and revising units F-NZQA unit requirements R-Ss going ahead; slower Ss consolidating</p> <p>K-C-adjusting to modularisation F-nothing; less S-T conflict R-feeling flat</p> | <p>J-F-motivating Ss high ability kids not producing; low ability progressing well R- Wg units, tests, helping Ss who ask for help</p> <p>D-F-fine line bet. directing & S control; gp work difficult to incorporate R-more time for slow kids; bright kids accelerating</p> <p>K-F-Insufficient checking of Ss' planning & work R- Ss improved planning; +ve attitudes towards units; my improved planning</p> | <p>Not asked</p> | <p>J-F-Not able to talk to whole class to explain R-Kids who work well, regardless of ability</p> <p>D-F-Ss do just the minimum, difficult monitoring those who don't come R-Lots of things; still offering a range of subjects; Ss work to capacity</p> <p>K-F-Once set up easy for lazy Ts R- Better T-S rels; Way kids work; easy for new kids slot in; catering for different levels</p> |
| <p>What are the main values and limitations of Achieve?</p> | <p>Not asked</p> | <p>J-V-control of own lg; self-mot. & effort L-some kids drift</p> <p>D-V-extending accelerated learners; helping Ss when needed L-assessment; gp work</p> <p>K-V-Ss work own pace & get ahead L-not catering for less able Ss; not checking amt of work done</p> | <p>J-V-Ss being resp for own life L-Ss not motivated</p> <p>D-V-planning L-too indiv; need gp wk</p> <p>K-V-S input; choosing own env; work own pace L-keeping tabs on Ss - some very slack; knowing their potential</p> | <p>Not asked</p> | <p>Not asked</p> |

| Table I.1 Teacher Interview Developmental Trends | | | | | |
|--|---|---|--|---|--|
| | March 1992 | August 1992 | November 1992 | April 1993 | September 1993 |
| How has your role as a teacher changed? | <p>J-Completely from a subject T to a resource person - to Ss; now working with indiv Ss rather than the class</p> <p>D-absent</p> <p>K-Enjoy one-to-one teaching; Ss choose to be in your class; better S-T rels</p> | Not asked | <p>J-totally different. Was very T dominated with everyone doing same thing in classroom at same time</p> <p>D-totally different. Don't now teach from blackboard or whole class</p> <p>K-considerably less T talk and more indiv help</p> | <p>J-attitude changed; now quite +ve towards Achieve; still reluctant to let go control due to safety needs</p> <p>D-Not sitting on sideline while game is being played. Ss come to you when stuck. I call a T directed class when needed</p> <p>K-improved long term planning; lazier in day-to-day planning; less pressure</p> | Not asked |
| If you could change anything about Achieve, what would you change? | <p>J-won't make any judgements educationally or philosophically until worked through it</p> <p>D-absent</p> <p>K-Great potential in small school; interesting to see how it develops</p> | <p>J-Ss should all work in lab for science</p> <p>D-more space in daily planners for more detailed planning; haven't thought about changes</p> <p>K-too many units; need policy on limits set; more attention to slower learners; need to guide Ss in their resp to get work done</p> | <p>J-nothing; based on sound educational theory</p> <p>D-counselling for some kids on work habits - deadlines</p> <p>K-reminder of our goals in Achieve; keeping in mind how we can make this work better</p> | <p>J-need to improve lab management; would like to observe another classroom; better units - more indiv and more interesting</p> <p>D-incorporate more gp work; more computers; used; more hands-on units.</p> <p>K-need to be challenged; more indiv units; on-going need to teach kids how to plan; tighten up our monitoring</p> | <p>J-would like a semi-Achieve - see all Ss all the time; gives more flexibility to teach whole class; happy for Ss to work indiv; more cross-curricular</p> <p>D- we need to examine issues deeply; balance indiv & gp work; teach skills: social gp work & planning; ensure homework done; raising Ss expectations</p> <p>K-develop multi-level units; more systematic monitoring.</p> |

| Table I.1 Teacher Interview Developmental Trends | | | | | |
|---|---|---|---|--|--|
| | March 1992 | August 1992 | November 1992 | April 1993 | September 1993 |
| What is the main philosophy behind Achieve? /benefits for students? | <p>J-unsure. More flexible staffing and timetabling. Should help Ss learn better. Needs to suit majority of Ss academically; social issues secondary</p> <p>D-absent</p> <p>K-Ss work at their own pace (get ahead if bright; take more time if slower)</p> | <p>J-learning to rely on themselves; not being spoon-fed</p> <p>D-accelerated learning opportunities for faster learners</p> <p>K-enjoy working cooperatively</p> | <p>J-learning to be resp for own learning; learnt to plan their own work</p> <p>D-uniqueness; their planning skills (plus for any employer)</p> <p>K-work habits; pride in own achievement; indiv expectations of indiv Ss - less pressure on them</p> | Not asked | Indirectly asked |
| What action has been taken from the feedback reports? /nature of meetings | Not relevant | <p>J-Discussions on philosophy & system; problems like S homework; S monitoring twice per term</p> <p>D-S profile sheets; T themes, like homework issue</p> <p>K-S profiles</p> | <p>J-Extensive discussion on JP last report; & principal's points; consolidation & refinement</p> <p>D-planning - principal expects more detail; pleasing S progress; use of computers, seminars & problem-solving</p> <p>K-planning; S mot, work habits & deadlines; offer seminars & more indiv units for slow learners</p> | <p>J-full discussion; up to each T to action; good to have outsider to point out areas we might look at</p> <p>D-discuss & then implement Good to have outsider with different views; many little things to fine-tune; take one at a time</p> <p>K-subconsciously taken note of things but I've forgotten the things I've done</p> | <p>J-improved content & unit presentation; improved indiv explanation; pt morning tea; modifying units - more variety; not much gp work; not tg planning & study habits; tighter S monitoring</p> <p>D-pt contact via plan book; started multi-level units; already teach study skills; limited gp work; K-only see pts don't need to see; unit choice increasing; not much gp work or conferencing.</p> |

The above table demonstrates a number of trends: developing understanding in philosophy and teaching practice, reflection and action research processes.

| Table 1.2 Issue Trends Over Interview and Survey Period | | | | | |
|--|--|---|--|---|---|
| | Apr 92 | Aug 92 | Nov 92 | Apr 93 | Aug 93 |
| <p>Student Concerns, Dislikes, Changes</p> <p>tg = teaching rg = reading TD = teacher directed gp = group wg = writing rels = relationships org = organisational mot = motivation bet = between resp = responsible indiv = individual</p> | <p>Nothing 12 Understanding work 11 T. unavailability 7 Time management 7 Forget Pie charts 3 Nobody makes you work 3 Prefer gp work & TD classes 3</p> | <p>Nothing 15 Signing 5 Like Science to be TD 4 Retraining 3 More rooms 3 Planning 3 Too much work 2 Say own pace yet deadlines 2 Not allowed to leave room 2 Getting behind 1 Assessment 1 Different classes mean new rels with Ts 1</p> | <p>Nothing 19 Too much wg 5 Boring - need more variety 4 Ts say work own pace but set deadlines 4 Not allowed to leave room 4 Too much rg 3 Maths 3 English 2 Science 2</p> <p>More Achieve periods 2 Period length 2 More rooms 1 Open library 1 Weekly signing T.unavailability 1 Social Studies 1</p> | <p>Dislikes not asked.</p> <p>Changes sought: Nothing 15 Need to separate kids to work 2 Ts set deadlines 1</p> | <p>Boring work 7 Often boring 6 Enjoy it 4</p> <p>Changes sought: More variety 4 More class activities 3 Unsure 3 More T help and explanation 3 Choice of work by self or gp 2 Less reading 1 More topic choice 1 Ts say own pace but set deadlines 1</p> |
| <p>Student likes</p> <p>+ve = positive gen = general knowl = knowledge indep = independent T-S = teacher - student Q = question cmty = community</p> | <p>Choosing classes or rooms 12 Choosing teachers 7 Choosing what when 7 Working own pace 4 Catch up 3 Other 3 Homework 2 Avoid subjects 2 Working with friends 1 Everything 1</p> | <p>Choosing classes or rooms 15 Working own pace 10 Different Ts 5 Variable timetable 3 With friends 3 Everything Planning - feel independent 2 Units of work 1</p> | <p>Choose rooms 10 Choice/freedom 8 Various subjects 7 Practical activities 6 Research units 6 Variety 3</p> | <p>Choose rooms 13 Own pace 7 With friends 5 Options 2 Unsure 2 Units 1</p> | <p>Choose rooms 12 Planning 9 Work at own pace 2 Work with friends 1</p> |

| Table I.2 Issue Trends Over Interview and Survey Period | | | | | |
|---|--|---|--|---|---|
| | Apr 92 | Aug 92 | Nov 92 | Apr 93 | Aug 93 |
| Teacher Concerns; dislikes or changes sought | Not seeing Ss regularly 4 Difficult to correct misunderstandings 2 Not teaching some activities 2 Ss not timetabling to see me 1 Helping Ss with other subjects 1 Too many Ss in library 1 Stricter 1 Need to help Ss plan better 1 Need better monitoring 1 Amount of preparation 1 Ss seeking lots of help 1 | Inadequate preparation time 1 Need to look at philosophy & units 1 More proactive in classroom 1 Unable explain to Ss at time needed 2 Nothing - conflict with Ss gone 1 Insufficient discussion time 1 Ss not planning properly 1 Slow learners 1 Not seeing Ss regularly 1 Motivating Ss 1 NZQA unit requirements 1 | S mot 2 Balance bet resp for own work & encouraging Ss to work 2 Ts inconsistencies & diff philosophies 2 Not seeing Ss regularly 2 Lack gen knowl 1 Ss not working 1 Insufficient monitoring of S work habits 1 Unsure what level at which to pitch work 1 Controlling practical apparatus 1 | Improve S mot by units more varied & interesting 6 More indiv programmes 2 Need tighter monitoring 2 Need to increase work rate 1 Need to remind Ss of system 1 Ss muck around 1 Need to improve org skills 1 More gp work & use computers 1 Ts revise units 1 Staff development essential 1 Ongoing tg Ss planning 1 Remind & discuss philosophy 1 Need cross-curricular units 1 More indiv tg 1 Staff unity 1 | Monitoring 2 Ts need mot 2 Lack leadership & vision 2 Staff not acting on changes 2 Ss not indep 1 Some basics not being taught 1 Catering for senior school 1 Lazy Ts 1 Ss not doing homework 1 Ss do minimum 1 |
| Teacher likes | Changed T. role to one of 'helper' 3 Std S work 3 Indiv teaching 2 Better T-Ss rels 2 Ss quicker planning work 1 Tg at teachable moment 1 More discussion with Ss 1 Ss enjoying learning 1 None yet 1 | Better T-S rels 1 S discussion 1 Ts better S Q focus 1 Nothing 1 Parents phoning pleased with S work 1 Improved cmty opinion 1 +ve S response 2 Ss work well 3 Feeling flat Ss enjoying choices 2 Consolidation of slower learners 2 | Ss ask for help 2 Ss view T as helper 2 Seeing Ss think & interested 2 Ss control own learning 2 Better S-T rels 1 More time slow S1 Different age gps help each other 1 Indiv teaching 1 Ss like work 1 Less T stress 1 Better S planning & attitude 1 Own planning improved 1 Wg units & tests 1 Better work discussions 1 Ss doing more practical work 1 Indiv lg & pace 1 | Question not directly asked Right system for our school 4 Better S communication 1 Achieve caters for indiv levels in learning 1 Ss becoming more reliable & skilled 1 | Ss lg more slowly but thoroughly 2 Less S-T conflict; better rels 2 Some Ss happier & faster progress 2 S's org skills 1 Easy accommodate new Ss 1 Slow learners work own pace 1 Range of options in small school 1 |

| Table I.2 Issue Trends Over Interview and Survey Period | | | | | |
|---|--------|--------|--|--------|---|
| | Apr 92 | Aug 92 | Nov 92 | Apr 93 | Aug 93 |
| Parent Concerns, dislikes or changes sought | | | No answer 17 Need more feedback 11 T. more strict 5 Ss need more T help 5 Books unsigned 4 Need subject T. help 3 Ss not working 3 Too competitive 3 Nothing 3 Ahead in some; behind in other subjects 3 Other 9 | | Not enough T. initiated direction & class input or discussion as a whole team 5 Less mot Ss waste time and under-achieve; dodge subjects don't like 4 Prefer old system 4 Insufficient help & T supervision 4 Subject T. unavailability 4 Nothing - really like Achieve 6 Ts less work 3 More T. involvement & guidelines set for Ss 3 Closer check on S progress 3 More homework 3 Less homework 3 |
| Parent likes | | | Work/advance at own pace 14 No answer 11 Choice: subjects, when work, room & T 9 Tg org skills 7 Daily planner - communication 5 Ss like school 4 Other 4 | | Work/advance at own pace 8 Nil 3 Indep/ resp for own decisions and planning 3 Ss can dis-associate from troublesome peers 3 Know S's progress 3 Participating with others 3 |

NB Issues were determined by recording concerns/dislikes; likes or changes sought by interviewees.

Decision rules: With parents 2 or less responses not noted in summary table.

SUMMARY OF RESULTS AND PROBLEM FORMULATION/RESOLUTION FROM CYCLE FIVE (refer to chapter six).

TEACHER DEVELOPMENT, MONITORING, AND EVALUATION

Teachers generally found the teacher development sessions to be stimulating and useful, with several teachers trialling different activities. Minimal progress had been made with evaluation however.

EXPLORING POSSIBLE DATA GATHERING

Insufficient thought had transpired in relation to data collection in the researcher's absence, (although considerable discussion occurred as a result of the feedback report).

CONCERNS AND SATISFACTIONS

Teacher concerns about Achieve focused on motivating teachers to change, commitment to action agreed policy, monitoring and addressing needs of individual learners. Improved relationships, student organisational skills and some students' progress continued to be sources of satisfaction to teachers.

CONTRADICTIONS

Teachers believed that contradictions arising between students' determining their pace of learning and teachers' imposing deadlines reflected a lack of negotiation in student conferencing, and restriction of student choice due to inadequate work habits. (Few teachers actually conference regularly). Teachers implied an openness to cooperative learning, although few had organisational strategies in place to implement the ideas.

REVIEWING CHANGES

Evidence of changes made to teachers' practice included: the production of parent booklets explaining the Achieve programme, greater use of the plan book for contacting parents, and morning tea meetings held to enable parents to view the programme in action. Only minimal modification of units had occurred, although teachers had intentions of introducing greater variety into newly constructed units as a result of their teacher development sessions. Interview responses implied limited teacher understanding of the importance of learning styles and strategies in an individualised programme, albeit the need for further teacher development was recognised. Improved planning, organisational skills, and friendlier school climate were the predominant changes noticed in Achieve.

REFLECTING ON INVOLVEMENT OF OUTSIDE RESEARCHER

Teachers spoke of the valuable feedback, independent perspective and identification of strengths and limitations as being the most valuable attributes of having an outside researcher involved in the programme.

PROGRAMME FUTURE

Closer monitoring, developing greater choice and raising student expectations were the most desired changes sought for the future. All teachers (returning to WHS in 1994) expressed their on-going commitment to the programme.

SUMMARY OF STUDENT RESPONSES

IMPRESSIONS OF THE PROGRAMME

Student interview responses indicated that generally students were happy with Achieve but indicated some boredom with the routine. Questioning of the discrepancies between their beliefs about the philosophy of Achieve and what they were currently experiencing occurred. Nevertheless, the majority view was still that Achieve was

preferable to the 'old' system.

TEACHER ASSISTANCE

Several students mentioned that they would like more teacher explanation of work and a greater variety of activities. Thus, students want more choice - not only of teacher topics and activities, but also in the design of their own projects. Students would appreciate some guidance in the design and execution of such projects, but **value the idea of choice and control**. Students intimated the desire for **more frequent monitoring** from teachers, especially during a unit of work. They wanted reassurance and encouragement that they were doing okay, specific advice on what to improve on and at times further explanation. Students spoke highly of individual support in maths, but wanted more of it in other curriculum areas.

INDIVIDUAL AND COOPERATIVE LEARNING

The majority of students valued the support and company of others - some students were feeling rather isolated in Achieve (a common element in independent learning programmes). However, a few students wanted the **choice between working alone or together**, depending on the subject and topic.

STUDENT-TEACHER RELATIONSHIPS

In relation to why students avoided the subject teacher, most frequent responses indicated a mismatch between the student and teacher's personality as the largest factor. Students knew that generally the subject teacher was the most appropriate person to see since they were more knowledgeable about the subject, but varying degrees of classroom discipline were appreciated by different students. Numerous students mentioned that a couple of teachers were too strict, yet other students complained about other teachers being insufficiently strict. Some students liked the motivation of the teacher - others found it too pressurising. The solution seemed to be to continue to allow students to choose their rooms. For students, choice was a highly valued factor throughout the study.

CHOICE AND MOTIVATION

Many from three and four students were concerned that their choices had been reduced. It may have been necessary for administrative purposes to require to see students one period a week - but was probably not advisable more often than this. Motivation was a major concern; many students were lacking confidence and a sense of achievement (perceiving much of the work to be too difficult). A greater variety of activities might have created more interest for the students.