

AN EXPERIMENT IN CROSS-AGE TUTORING IN
AN IRISH POST PRIMARY SCHOOL

by

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ABSTRACT

A programme of cross-age tutoring was introduced into the formal curriculum of a second-level school. The aim was twofold - to increase the incidence of effective remedial help to those students experiencing difficulty in basic academic subjects, and to demonstrate the possibility of teachers devising, developing and implementing curriculum change relevant to the local needs of their individual schools. Secretarial students drawn from post-leaving certificate classes volunteered to tutor first and second year students identified as having academic difficulties mainly in the areas of mathematics and english. The study draws from a wide range of theoretical bases and stresses the importance of ecological validity both in programme development and in statistical analysis. The following programme outcomes were investigated: (1) academic gains of tutees, (2) attitudinal gains of tutees, (3) gains in self-esteem of tutors. Results indicate some academic gain, but highly significant attitudinal gain. There was little effect upon tutor self-esteem. The study examines the results in the context of the educational environment and indicates areas for further possible research.

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INTRODUCTION

The organisation of the process of education within Irish second level schools is traditionally, and uniformly, the ordering and instruction of a class of students by a teacher, ideally highly conversant with his subject area and adept at classroom management. Whilst there may well be many peripheral activities within the school, the basic laws of educational instruction seem to be immutable. However, many schools are now having to come to terms with a rapidly changing student population, a population which can no longer be assumed to be highly motivated, imbued with a respect for the institution in which it finds itself, and inevitably destined for third level education. The expansion of remedial education and guidance and counselling services within schools is a testimony to the perception that the traditional methodology is somehow inadequate to meet all the needs of all the students. Curriculum change and development is now, more than at any other time in the history of the state a matter for discussion and debate.

The publications of the Curriculum and Examinations Board make interesting and stimulating reading. Many of the assumptions and proposals of this body will be discussed in detail as they pertain to the impetus of the thesis. Curriculum change clearly implies more than the renaming and regrouping of subject categories and the refinement of assessment. The traditional mould of the teacher/pupil

relationship is increasingly being broken and reshaped and this research examines such a mould breaking activity - that of cross-age tutoring - the use of older students as instructors of younger students within the formal timetable of a second level school. This involves the use of non-professional personnel within the educational process, a practice which, despite revolutionary connotations has a long pedigree in education. More broadly the research sets out to accept the challenge thrown down by Eggleston(1):

to make problematic the nature of institutional relationships, cultural reproduction and transmission and the whole apparatus of curriculum determination and practice.

The remedial teacher is one member of the school staff who is in a good position to deduce the problematical nature of many relationships found within the educational environment. He deals with failure and a major part of his brief is to discover the nature and causes of this failure. If his only operational variable is the performance of the student then his problem is simple, and probably insoluble. This research illustrates a method of not only perceiving other variables but also of controlling them. This leads to an expansion of teacher activity, autonomy and effectiveness, to say nothing of job satisfaction. An important emphasis of the research is the greater sense of professionalism which a teacher feels being involved in dynamic curriculum development. He is also able to exercise his theoretical preferences in a way that is not possible when hidebound to customary routine.

Tutoring is able to draw upon a rich array of well-established theories from sociology and psychology combining to form a sound theory of education. Chapter One describes the major problems addressed by the research; i.e, the provision of much needed remedial education to students too numerous to be serviced by one remedial teacher, and the provision of opportunity to the regular school teacher to design an effective curriculum development which is immediately relevant to the educational environment and which can be formalised in the school timetable. Emphasis will throughout be on the application of environmental considerations in programme and in research design. Chapter two offers definitions of tutoring and an historical perspective. In chapter three there is a discussion of the relevance of good theory as a basis for effective practice and several well developed theories are related to the practice of tutoring. In chapter four the literature on tutoring and tutoring programmes is reviewed and chapter five describes the experiment itself.

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CHAPTER ONE

STATEMENT OF PROBLEM

(A) REMEDIAL EDUCATION

Remedial education in Ireland is a comparatively recent phenomenon. Its occurrence is patchy and varied. This state of affairs offers both limitations and possibilities. On the one hand the remedial teacher has to assert his right to full recognition within the system, on the other he derives a freedom of manoeuvre often denied to regular classroom teachers.

The provision of remedial education within the state originates from the establishment of comprehensive schools and the creation of the post 'remedial teacher' within these schools. This initiative was reinforced by the organisation of a course for serving teachers by the Department of Education and run by its psychological service, the successful completion of which conferred upon the participants the title of 'recognised remedial teacher'. The first such course was organised during the school year 1971-72. From the outset, the term 'remedial' whether applied to the teacher or to the position, implied the application of specific and atypical teaching and learning techniques to one or more students. However, the location of the term shifted onto the student or the recipient of the remedial treatment and gradually these

students became known as 'remedial' students, instead of the more grammatically correct 'remediable' students. The implication of this shift is more than one of semantics and is most pertinent to this research since the logical conclusion of this definition was rapidly reached whereby 'classes' of 'remedial students' were being taught by 'regular classroom teachers' portions of 'regular' syllabi and this activity also fell under the mantle of remedial education.

The teacher of english or mathematics or any well established curriculum subject has fairly rigid guidelines to follow - namely the approved curriculum issued by the Department of Education. The attention and intention of such a teacher is even more firmly focussed by the assigning of textbooks to students, and often staff room discussion of curriculum matters never rises much above the comparative merits of one text or another. The remedial teacher's brief is much more indefinite if, indeed, he could be described as having a brief at all. Certainly there is no official 'job description', no prescribed texts, no prescribed methodology. Perhaps by accident, perhaps by design, remedial teachers are offered a measure of professional autonomy which excites some and worries others. In recent conversation an American educator expressed amazement at the pleas of some Irish remedial teachers whom she had heard bewailing the lack of advice and assistance they were receiving from the Department of Education. She claimed she was labouring

under a system in which every move was documented and accountable.

The history of special support services is much longer in North America and some very clear definitions of remedial teaching and the 'remediable' student are available. A typical 'job description' for the remedial teacher is reproduced in APPENDIX I. The definition of the type of student with whom this teacher should concern himself is equally clear:

This child fails to achieve commensurate with his or her abilities when provided with appropriate educational experience in the areas of oral expression, listening comprehension, written expression, basic reading skill, reading comprehension, mathematics calculation or mathematics reasoning or (ii) the child evidences a severe discrepancy between achievement and intellectual ability in one of these areas.
Public Law (1)

It is clear that even the most precise definitions available of the parameters of the work of the remedial teacher refer to scope of activity and clientele, rather than to methodology and materials which are the essence of descriptions of the task of regular classroom teachers.

It is anticipated that this research, in addition to empirically testing the efficacy of a tutoring programme, will also offer the opportunity of examining the enhancement of activities which might properly be regarded as 'professional' at the expense of other activities which might equally be regarded as non-professional.

The position of the remedial teacher in Ireland is ill-defined and ambiguous. A remedial teacher, generally depending on the size of his school, may be either 'quota' or 'ex-quota'. A synonymous term for the latter is 'additional teacher'. If he is in this latter category, then he is not included in the calculations for assessing the number of staff to which a school is entitled on foot of the number of pupils they cater for and with reference to the prevailing teacher/pupil ratio. As a physical presence he is a bonus to the compiler of the school time-table. The 'quota' remedial teacher must take his chances within the mainstream of timetabled teachers and by definition his 'remedial' activities will be much more circumscribed. However, the 'ex-quota' person may also find his freedom to pursue his calling somewhat restricted. Some remedial teachers voluntarily relinquish some of their 'remedial' time on the grounds that they need to retain contact with their 'subject area' and with academic stream students. There is no directive from the Department to state that 'ex-quota' teachers must spend all their time in 'ex-quota' work. Other 'ex-quota' teachers find their 'ex-quota' time under threat in schools which seek to provide specialised higher courses such as honours leaving certificate classes to small groups of students, whose number is well below that of the ratio of student to teacher previously mentioned which forms the basis of allocation of teachers to schools. In this case the remedial teacher can find solace neither in the Department of Education, nor in his professional

organisations, both of which recognise as acceptable 'remedial education' the teaching of classes of 'not more than 16 students' of low ability students. A school following this to the letter can easily accommodate the remedial teacher as a 'regular' teacher of a low stream class, and reallocate the teaching time made available to the specialised classes described above.

There is, then, a vagueness surrounding the application of remedial education in Ireland. The success or failure of a remedial programme within a school depends on many factors: the ingenuity and assertiveness of the remedial teacher, the co-operation of the administration and the integrity of the timetable compiler, to mention a few. It is often, under pressure in this atmosphere, that a remedial teacher is driven into areas of curriculum innovation and development which may well result in implications for change within the school as a whole, even though the strategy described in this research is non-classroom. This search for a different methodology, or more crudely - survival skills- takes the remedial teacher in a different direction to that of the classroom teacher, who despite the best will in the world, is faced with 30 or more, often very reluctant charges, within four very confining walls, and whose main recourse must inevitably lead to various forms of behaviour modification. The logistics of the educational process have led to the identification of the 'good' teacher as the one who is able to 'control the class'. This research describes a

non-classroom development, which in the form described below, could only be implemented by a teacher with a 'roving commission', but which, with some modification, could be incorporated into regular classroom activity.

(B) PARTICIPATION IN CURRICULUM DEVELOPMENT

Whilst teachers may well be encouraged to experiment and innovate within their classroom activity, very often their work is localised and never formalised. Broad and formal curriculum reform tends to be the preserve of more influential educators or statutory bodies. The latest such body appears to envisage little change in the dynamics of curriculum development. It seems a fairly obvious assertion that a teacher's conception of the term 'curriculum' will largely determine his teaching methodology. Equally, the presentation of a certain 'curriculum' accompanied by the appropriate methodology leaves very little that is problematic, the only variable being the student and his receptivity or lack of it. Writers discussing the philosophy of curriculum design generally identify the two extremes of child-centred and subject-centred curricula with the compromise being the inevitable pragmatic solution. For instance, Davies (2) identifies three perspectives in the history of curriculum design - the classical, the romantic and the modern, roughly corresponding with subject-centred, child-centred and compromise. He lists the elements of the modern

perspective as follows:

Flexible grouping, participative, liberal, process emphasis, inquiry centred, learning resources, experience, creativity, transactive, probability, growth, self-fulfilling, responsibility, doing things with.

These elements are contrasted with elements pertaining to other perspectives, for instance, flexible grouping in the modern perspective is contrasted to class teaching in the classical perspective and individualised learning in the romantic perspective. Again, responsibility is contrasted to freedom on the one hand and discipline on the other. It would seem that the modern perspective is less a set of hard and fast rules of activity and more of an invitation to the educator to use his initiative to extract those techniques from whatever source which are appropriate to the immediate learning environment. This is an important element in the concept of 'professionalism' to which I shall return later.

A curriculum which recognises a variety of approaches and value in different theoretical bases would seem to have been the aim of the Curriculum and Examinations Board at present working on curriculum reform and new methods of assessment. Certainly the board's definition of education seems to provide an umbrella under which all but the most diehard and obstreperous educators might shelter:

The general aim of Education is to contribute towards development of all aspects of the individual including aesthetic, creative, cultural, emotional, intellectual, moral, physical, political, social and spiritual development for

personal and family life, for working life, for working in the community and for leisure. Issues and Structures in Education (3)

Whilst due recognition is given to the necessity of involving school personnel in the formation and development of new curricular activities as opposed to simply implementing them:

Among the priorities to be addressed are - the imaginative and effective use of existing human and material resources.
In Our Schools (4)

Unfortunately there is little more offered to support these aims other than further laudable, but general, aspirations:

In suggesting that every pupil in the Junior cycle should experience the above areas(a full range of subjects), the board is aware that schools have to take into account their existing resources, both human and material.
In Our Schools (5)

and

To be most effective, home and school should work together in a partnership supportive of shared attitudes and values.
In Our Schools (6)

On the other hand, the literature supplied by the board is quite explicit in its recommendations in respect of the ordering and arranging of curriculum objects - even correct to the nearest minute in proposals for length of school time to be devoted to a given subject or subjects. (In Our Schools 1986 p.23). Equally precise are the documents on assessment, even though there are, again, stated aims which seem to indicate that the person may

well be recognised as having a more significant position:

First the democratic component suggests that a greater autonomy should be given to individual schools and to teachers in their professional activity.

Assessment and Certification (7)

The specifically 'democratic' turns out to be a commitment to continuous assessment which, to function adequately, may well increase the bureaucratic burden of the classroom teacher and offer even less scope for initiative in innovative educational practice. It is not my intention in this thesis to denigrate necessary reform in assessment or subject grouping/regrouping, but to highlight other areas of curriculum development which seem far more pressing than those which the statutory bodies seem prepared to address.

Many schools do not have the luxury of having as their priority subject ordering or assessment, but the provision of a learning atmosphere to students whose success in regular school activity will be extremely limited and whose attendance at school is in no small part due to the law of compulsory attendance until the age of fifteen. It is in the context of the need for reform in the use of school personnel, and the need to realise more fully the potential of all school members that this experiment in cross-age tutoring was initiated. It appears that whilst statutory curriculum reform will encourage the reform of personnel adaptation, the implementation of such change

will only receive its impetus on the initiative of staff members of educational institutions. If the traditional teacher/student, teaching/learning relationship is seen as non-problematical then there is clearly no need for change. The teacher will simply receive new instructions from curriculum developers that he will now no longer be teaching, for example, history, but a component of a composite Social studies course. and that he will be required to submit continuous moderated assessment, in addition to assiduously preparing those capable of examinations in examination technique and mastery of subject-specific material of whatever label. However, I believe that this arrangement is neither immutable nor non-problematical. Equally, and obviously, the formal class, teacher/student arrangement will remain the only possible one given the logistics of educational institutions for most of the students most of the time, but this is not the only possible arrangement and imaginative curriculum reform presupposes imaginative personnel and imaginative use of such personnel.

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CHAPTER TWO

TUTORING-DEFINITIONS AND HISTORICAL PERSPECTIVES

The term 'tutoring' has many uses in educational practice and describes many quite different activities. Also whilst the type of work involved in the tutoring described in this thesis has a long history, it is only quite recently that it has been developed as a specialised and formal learning instrument.

In common parlance a teacher who is designated a 'tutor' is usually associated with the pastoral care department of a school. 'Tutoring' may be the function of a 'year head' who would have a post of special responsibility or it could be the voluntary function of a classroom teacher.

Even so, to be a 'tutor' in this sense would have connotations of a higher status or degree of professionalism from that of a regular classroom activity. Notions such as added responsibility or in-service training are in evidence. There are no such connotations when 'tutoring' describes the activities of non-professionals engaged in tutoring. The primary function of the tutor as described in this research is one of instruction in the broadest sense, although this does not exclude other elements of the learning process occurring. Sarbin (1) has examined the etymology of the term 'tutor' and arrived at the following description:

Derived from the Latin "tueri", originally it carried the meaning "to protect", to guard, to care for. The same root meaning is found in the concept

of 'Tutelage'.

The ideal of learning occurring when two people meet in a common search for knowledge has its most famous exposition in the dialogues of Socrates, although the history of such activity is older still:

Dialectic, that is to say, the method of seeking knowledge by question and answer, was not invented by Socrates. It seems to have been preached systematically by Zeno, the disciple of Parmenides. Russell (2)

However, the history of tutoring in education owes less to the ideals of tutelage or dialectic, and much more to the ordering and arrangement of the learning environment. In a review of the organisation of mediaeval educational practice, Allen (3), draws largely on the work of the French philosopher Aries who describes the unstratified learning environment, the lack of gradation in the work presented to students of all ages, and the large all-age rooms in which learning took place. It was not until the end of the middle ages that the practice of constant repetition of the same material over many years gave way to the gradation of material according to difficulty and the separation of students into groups according to age. Indeed the modern conception of childhood was not current in mediaeval society. The child was a miniature adult from an early age, and soon found itself in the adult world of work and manners. This by no means indicates enlightenment and application to theories of child rearing. De Mause (4) laments that:

A child's life prior to modern times was uniformly bleak. Virtually every child rearing tract from antiquity to the 16th century recommended the

beating of children. We found no examples from this period in which a child wasn't beaten, and hundreds of instances not only of beating, but battering beginning in infancy.

The desirability of graded material or humane treatment of children is now largely unquestioned, but there are many examples within educational practice of grouping using criteria other than age. Before discussing more modern varieties of student grouping, reference should be made to the best known historical example of tutoring which also became known as the monitorial system.

Allen (5) describes the movement which developed in the early 19th century and spread over large areas of England and Wales - the use of children as teachers of other children. It was a movement which had a most unlikely origin. A Scotsman by the name of Alexander Bell was in charge of an asylum for orphans of British soldiers and Indian mothers in Madras, India. Bell found the children unruly and difficult to instruct until he hit upon the idea of using older children to teach younger children. The change brought about in both behaviour and attitudes was so great that Bell (6) was led to observe:

The school is thus rendered a scene of amusement to the scholars, and a spectacle of delight to the beholder. For months together it has not been found necessary to inflict a single punishment.

The report of Bell's methods (which consisted of both one-on-one tutoring, and older children managing full classes of younger children) was published in 1791 and was soon acted upon by Joseph Lancaster, an English educator. He refined, regularised and so popularised the system that

by 1816 up to 100 000 children in England and Wales were being taught by the Bell-Lancaster method:

Teaching was conducted mechanically and with great precision. First the teacher drilled the older children in the lesson, then these older children taught groups of younger children, who in turn might drill still other children younger than themselves.

Allen (7)

According to Lancaster, (8) using this method, it was possible for one teacher to be responsible for the instruction of 1 000 students. At the other end of the educational spectrum at this time was the governess who tutored the children of the rich and whose work and activities are so well documented in the work of the novelists of the time. The demise of the system of children teaching children as an essential part of organised education came with the increasing professionalisation of teaching. I return later to the concept of professionalism, but it is sufficient to note here that professionalism and training gradually came to be synonymous with expertise and effectiveness and so the days of the untrained tutor were numbered. The tutors owed their existence to pragmatism, and with the advent of a professional teaching body, their presence was an anachronism. Yet, in one area of organised education, tutoring retained its usefulness and survived alive and well to this day informally and unobtrusively.

The rural one room school has long been a place where the teacher has resorted to tutoring as an invaluable aid to cope with a broad range of ages and abilities. My own

teaching experience has included work in a one room rural school on a North American Indian reserve in which the ages ranged from 6 to 15 years, and the grades from Kindergarten to 6. The tradition was to arrange such rooms into rows according to grades. Each year the student changes row. But the amount of 'class' instruction which can be carried out in such circumstances is minimal. The use of older students to instruct younger students has appeared to many teachers to be an obvious ploy. In a survey of the one room schools in the state of Nebraska, Allen and Devin-Sheehan (9) discovered from the responses of 110 teachers and 1405 students that tutoring took place on a regular basis in 31 of the schools, that in 25 of the schools there was some kind of informal tutoring, that 77 of the students said that for some part of the day they asked other students for help whilst at their desks, and that 88 of the students said that at some time they worked with other students. Yet tutoring, even in the benign and educationally productive atmosphere of the one room school still retains its essentially pragmatic aspect - a convenient arrangement of the learning setting given organisational peculiarities. However, it was not until the 1960's that educators began to view tutoring in a different light and to construct research accordingly. Tutoring came to be seen as an expression of theoretical models of education designed as a result of new insights from the major disciplines of psychology, sociology and philosophy.

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CHAPTER THREE

THEORETICAL BASES OF TUTORING

The proliferation of academic disciplines since Pythagoras declared that all things could be explained by Mathematics and Music has gone on apace. There are those who would doubt the validity or necessity of inventing yet another - that of the 'Theory of Education'. It is true that many influential educators have taken their starting points from perspectives other than 'pure' education, if there is such a thing. psychology, sociology, philosophy have provided fertile soil, and there are other supplies. However, an appeal to good theory is an essential prerequisite to good practice and tutoring can appeal to several well formed and well tested theories from various disciplines to justify its presence within the educational process.

(A) THEORY AND LIBERAL EDUCATION

Phenix (1)) speaking of the need for a theory of moral education said that moral theory is: 'a vision that justifies and animates the student's and the teacher's active moral endeavor.' I do not think it would be stretching the point too far to suggest that this striking definition would lose nothing by the omission of the term 'moral'. He also said most perceptively (2), that there is 'nothing so practical as theory.' Those who have promulgated a theory of education as opposed to a theory of learning or instruction tend to come within the ambit of what Hirst (3) called 'liberal education' which is concerned 'simply and directly with the pursuit of knowledge' and this knowledge is a 'distinctly human virtue, which has a value for the person as a fulfillment of the mind.' Since the essence of one-on-one teaching or tutoring is the individual, then this activity would find

support from such theory. Dewey,(4) as an example of a 'liberal' educator makes inquiry the central concept of his theory. He approaches education from a philosophical perspective and his emphasis on inquiry leads him to view education as an activity. Learning from experience involves the mentally active participant and observer:

An experience is always what it is because of transaction taking place between an individual and what, at the time, constitutes his environment.

The learning environment of the tutoring pair with its emphasis on reciprocal interaction and choice of participation would certainly find much support and approval in the theories of educational liberalism. Yet, equally, a practice which draws sustenance from only one theory or perspective is vulnerable to successive fads which might predominate at any given time. The liberal 'discovery' learning which swept English primary education in the sixties is a classic example. Whilst tutoring with its emphasis on individual needs, and its breaking with the traditional format would be placed on the 'child-centred' side of the broad educational scales, it can also appeal to more specific theories of teaching and learning which give more substantial and detailed justification for its presence on the curriculum.

(B) ROLE THEORY

Role, as defined by Linton (5) is the 'dynamic aspect of a status.' He continues:

The individual is socially assigned to a status and occupies it with relation to other statuses. When he puts the rights and duties which constitute the status into effect he is performing a role.

The distinction is then made between 'ascribed role' and 'achieved role', the one being:

assigned to individuals without reference to their innate differences or abilities. (6)

and the other is that:

requiring special quality..they are not assigned to individuals from birth but are left open to be filled through competition and individual effort.(7)

This well-defined distinction between role types has subsequently been highly debated and refined within sociology but there would be little argument with Goffman's (8) assertion that:

Participation in any circuit of face to face activity requires the participant to keep command of himself both as a person capable of executing physical movements and as one capable of receiving and transmitting communications.

The type of physical movement and the quality of communication have direct relationships to the type of role enactment - whether it be ascribed or achieved. The school setting provides an arena for the enactment of a multitude of roles some clearly definable, others vague. However, most of the activity within the school performed by pupils undoubtedly pertains to the enactment of ascribed roles - the lack of freedom of action probably being greater than at any other time during the course of the average person's life span. In an analysis of behaviours concomitant with

role enactment within schools, Sarbin (9) has suggested that one of the major failings of the teacher-pupil interaction lies in the confusion surrounding role enactment and expected behaviour, and that a programme of tutoring is an effective resolution of the difficulty. Role enactment progresses in the developing child almost exclusively from the ascribed to the achieved modes, and valuations of the actions will differ accordingly. Sarbin points out that the valuational responses of the kindergarten teacher to appropriate student behaviour will be distinctly different from responses offered by high school teachers to their charges, since the achieved element will constitute a far greater proportion of the role enactment in the latter student than in the former:

As we consider pre-school teachers, primary teachers, secondary teachers, and college teachers in turn, the attained component becomes more prominent and the granted component less prominent.

The problem of effective management of student action arises when the teacher's responses are those associated with the attained role when the student is in the process of ascribed role enactment, the difference between the two responses being on the one hand, 'Primarily non-verbal, affective, caring valuations', and on the other, 'rational esteem and verbal valuation.' (9)

If the student sees the school as the place through which he must progress satisfactorily in order to receive good grades and aspire to higher education and rewarding career

prospects, then valuations of his efforts which include esteem and assessment of high marks, prizes and other commendations are in order and likely to be strong reinforcing agents. If, however, the child has only short term goals, does not place high priority on academic achievement either for its own sake or as a means to a distant end then such valuation would be inappropriate. The appropriate valuations of this child's enactments would be those associated with the ascribed role:

The child expects one valuation and receives another. Such role confusions can be important background factors in a child's failure to learn in the traditional classroom situation.

SARBIN (10a)

It is often virtually impossible for a classroom teacher working with many students operating at different levels of expectation to offer appropriate valuation responses to all the students, but Sarbin concludes that even when working with small groups of students in the 'remedial' setting, professional educators can misinterpret the expectations of the child resulting in a lack of progress:

The pupils positive performances are met with the teachers ESTEEM response when esteem has not yet become a supplement to RESPECT and CARING as the valuational responses that reinforce conduct.

Sarbin (10b)

It would be churlish to suggest that all professional educators by and large misinterpret valuational needs, just as it would be equally wrong to assert that all non-professionals acting as tutors are by the very fact of their lack of professionalism some how more attuned to

students response needs who are acting out a largely ascribed role. But research evidence does exist to suggest that older students acting as tutors may well, in certain circumstances, be more sensitive to non-verbal responses of students such as facial expressions(Allen and Feldman (12), but notwithstanding it, does seem a fairly tenable argument that at least some instructional contact with older students in an informal setting must enhance role development and enactment amongst both tutors and tutees. Since both tutor and tutee roles are voluntary, and voluntariness is a feature of the achieved role, it follows that tutoring offers older students appropriate role enactment and initially at least, a rare opportunity within the formal educational setting for similar enactment amongst younger students.

(C) SOCIAL SKILLS THEORY

Whilst Role Theory attempts to explain the quality of the action performed by each of the individuals within a tutoring relationship, social skills theory describes the quality of interaction between the participants. interaction between individuals is characterised as non-verbal or verbal and in the social skills model of learning, the quality of learning depends upon the quality of these two components of the interaction.

Non-verbal communication takes the form of large body movement through to minute facial gestures. The

importance of this type of communication is summed up by Abercrombie(12):

We speak with our vocal organs, but we converse with our whole body.

Either advertently or inadvertently, liking or disliking between individuals in social interaction is conveyed by facial expressions. A study by Argyle et al. (13) found that judgements of superior or inferior status made by individuals used facial expressions to a significant degree.

Variance due to non-verbal cues was about 12 times the variance due to verbal cues.

A very obvious message of empathy is sent to another person if the individual chooses to locate themselves close by. The intimacy of a tutoring session as opposed to the impersonality of a large lecture theatre is an example readily available from third level education. The non-verbal elements of speech itself also communicate messages between individuals. The undulations of speech, acceleration or deceleration, loudness or softness, all convey to the listener aspects of the mental or emotional states of the speaker. Argyle((14) believes that the importance of such non-verbal communication is so great that:

Statements will probably not be believed unless accompanied by appropriate non-verbal communication.

A major premise of Social Skills Theory of social interaction is that:

The monitoring of another's reactions is an essential part of social performance. (15)

Teaching is an example of social performance, that is, of interaction between persons- in normal circumstances between a teacher and a number of students in a class. If the monitoring of both verbal and non-verbal cues is an important element in social performance, then the implications for the management of learning are significant. In a regular classroom, the teacher faces the daunting task of monitoring the reactions of 30 and possibly more individuals. Given the complexity of such interaction, it is hardly surprising that the cues to which the teacher is more likely to respond are verbal cues, and that the most vociferous or verbally active students are the ones who are most likely to control the direction of the class. Jecker et al. (16) found that teachers, on the whole, were not sensitive to non-verbal cues, but could be trained to become sensitised fairly easily.

The successful one-on-one tutoring relationship would seem to receive a firm theoretical basis in social skills learning theory. Not only does the intimacy and informality of the relationship offer many opportunities for the interchange of both verbal and non-verbal cues, but evidence exists to suggest that 'similarity in

cognitive constructs makes communication much easier' Bonarius (17). Obviously the successful teacher has learned the art of easy communication across one or more generation gaps, but it would appear that it is a skill which however natural it may appear, needs to be nurtured and practiced. The naturalness of Tutor/Tutee relationships given the similarity in age and 'cognitive constructs' would appear to give tutoring a flying start as a teaching/learning activity, albeit an activity which needs to be carefully managed. Social Skills Theory sees the relationship as two way and it offers some explanation as to the reason for the positive learning gains made by both tutor and tutee as detailed below in the section on tutoring literature.

(D) MODELING THEORY

Bandura (18) defines 'modeling' or 'information processing' theory of observational learning as follows:

While the observer views the model's behaviour, the observer codes the model's actions in the form of verbal or symbolic images that can later be retrieved when the observer performs the model's action.

In one of his earliest experiments, Bandura et al. (19)) demonstrated that nursery school children would reproduce an adult's aggressive actions towards a doll after observation, and in a later study (20) he demonstrated that observational learning took place irrespective of the presence or absence of reinforcement.

The theory claims that modeling instigates learning of a much more sophisticated type than simple representational learning:

In social learning theory, observers function as active agents who transform, organise and classify modeling stimuli into easily remembered schemes, rather than as quiescent cameras or tape recorders that simply store isomorphic representations of modeled events.

Bandura (21)

The work of Bandura is extensive and complex and a complete exposition of the theory is beyond the scope of this thesis, but some of his findings are clearly relevant to a programme of cross-age tutoring in which a student is presented with a secondary model of authority and school knowledge. As we discover in a later section, a major finding which occurs over and over again in the literature is that attitudinal gains of those tutored are significant. In a cross-age programme such as the one that forms the core of the thesis the student is presented with a tutor model who, on the one hand projects academic success, favourable attitudes towards learning and reasonably co-operative feelings towards the institution of the school, yet on the other presents an example of the student body close enough in age to the tutee to share concerns such as those of adolescent maturational stresses, possible future employment difficulties, specific school problems, etc etc. In the tutoring relationship the tutee encounters a model who displays an interest in learning, a constructive attitude towards teacher/school activities and who is a concerned individual who voluntarily gives of her time in the

interests of the tutee.

(E) PROFESSIONALISM

In planning a strategy for curriculum change, it is not always possible to anticipate all objections which may be encountered or pitfalls which may suddenly appear. But it is wise to anticipate as many as possible, since a nipping in the bud is more effective than later corrective treatment. The concept of professionalism would seem to require consideration from two perspectives in relation to this research. Firstly, since tutoring involves, at least in part, tasks which would normally be performed by a trained teacher the question arises as to whether this implies either incompetence on the part of the tutor, unprofessional conduct on the part of the organiser, or both. Secondly, it was stated at the outset that a major aim of the curriculum development strategy described in this thesis was to provide the classroom teacher with the opportunity of initiating, developing and promoting curriculum change, and that this opportunity is at present not readily available through either statutory or informal machinery. It was suggested that greater autonomy in action and freedom to experiment on the part of the teacher would be an enhancement of his professional activities. In order to examine more fully these two aspects of professionalism it is necessary to address the concept of professionalism itself in some detail.

By coincidence, this part of the thesis is being written at a time of acrimonious dialogue between the British teacher unions and the British Minister for Education, Kenneth Baker, and it is painfully obvious that each side is speaking at cross purposes since each has a totally different conception of the term 'professionalism'. At one point in the course of an interview Baker remarked 'Professionals don't watch clocks.' (This in relation to teachers 'working to rule') His view is that of the 'vocational' side of professionalism involving a code of conduct which is required over and above that associated with non-professionals. The teacher unions, on the other hand, tend to stress the financial rewards offered to other 'professionals' and deride their own returns. In this country teacher claims for salary increases are often accompanied by pleas such as 'a professional service deserves a professional reward'. Ironically an examination of commonly accepted criteria used to evaluate the 'professionalism' of a particular occupation would indicate that, by and large, teaching is not a profession.

The traditional sociological view of professionalism tends to rely on a structural functionalist perspective. In an account of the attempts by teachers to obtain a 'professional' status in the second half of the last century in England, Parry and Parry (22) define professionalism as:

A strategy for controlling an occupation in which colleagues, who are in a formal sense equal, set up a system of self-government.

They further suggest that this self-government entails restriction of entry through education, (over and above state education and certification), training and qualification. There is both formal and informal regulation of members conduct, or at least the power of such regulation is vested within the profession. There is also an occupational regulation which effects closure to limit supply to market demands and most importantly, state support is gained in the form of a legal monopoly backed by legal sanctions. Parry and Parry detail the failure of the teaching fraternity to emulate their fellow professionals in medicine and law. These professions attained a legal monopoly, the teachers did not. It is quite obvious that at the present time the teaching profession is in no way comparable either in status, salary or self-regulatory powers to other professions, yet there is everywhere evident amongst teachers a desire to attain 'professional' status in areas other than financial. Union leaders plead for a 'professional salary' for a 'professional job' and patronising employers bewail the lack of 'professionalism' when teachers resort to industrial action.

A second more recent perspective on professionalism, and one which seems to hold a far more promising prognosis for the frustrated professional educator is the recourse to the idea of 'process' in a view enunciated by Bucher and

Strauss (23). Using medicine to illustrate their position they argue that professions, far from being large homogeneous and fairly static groups, are actually loose amalgamations of quite different segments, different in activity and perception. One characteristic of the 'professional' is that he has 'clients' who in one way or another receive the benefit of his 'professional' services. Bucher and Strauss point out that whilst consultant doctors may well attest to belonging to the one profession, the clientele and the relationship with that clientele, is very different when the work of a paediatrician is compared to that of an anaesthetist. The 'professional activity' of the client/professional relationship lies in the construction by the professional of a unique and appropriate mode of action between himself and his client. A profession in process is one in which the members exercise a freedom of manoeuvre which befits their expertise and particular segmental interest.

A large educational institution contains many individuals with diverse and often opposing interests. A view of the relationships within such an institution which sees existing structures as somehow relating either closely or distantly to a 'professional' ideal, is less likely to be one that embraces the need for professional development at the individual and classroom level, rather than at the organisational or statutory level. The process view may hold cold comfort for the financially frustrated, yet even in this area there may be change on the wind with

decreasing teacher numbers and the increasing employment of part-time or 'paraprofessional' helpers. But freedom of action and the necessary self-confidence so to act seems to hold very definite and promising prescriptions for the 'occupationally' frustrated. An innovation such as cross-age tutoring which springs from the perceived needs of a given location resting upon a sound theoretical basis and justified in the literature would seem to provide ideal conditions for the 'professional in process'.

(G) THE EDUCATIONAL ENVIRONMENT

Having briefly discussed several theoretical bases upon which a tutoring programme can be securely founded and which are well documented in the literature, I will conclude this section by outlining two further theoretical considerations which, as far as I am aware, do not appear in the tutoring literature, but which, I believe, are highly relevant, and in the case of this particular thesis quite central.

The field theory of Kurt Lewin is complex and rigorous, and it is certainly not my intention to provide a summary of his work, but a brief outline of some of his main premises is important to establish the pedigree of current writings in the ecological validity of educational research especially as advocated by Urie Bronfenbrenner and which are important to the effectiveness of this research. Lewin's theory is a

theory of personality(24) and he attempts to apply mathematical precision to personality theory. His main premise is reducible to an equation:

$$B = F (L)$$

Behaviour is a function of the Life Space

This equation has been very effectively restated in relation to education theory by Hunt and Sullivan (1974) in their masterful attempt to pull together the many diverse strands which make up a Theory of Education (see above):

$$B = P + E$$

Behaviour is the sum of personality and environment.

Lewin represents the person diagrammatically as a closed loop illustrating the idea of separation from the rest of the world, yet inclusion in the world. He defined the task of dynamic psychology as:

to derive univocally the behaviour of a given individual from the totality of the psychological facts (26)

The totality of psychological facts Lewin terms the 'Life Space'. The life space contains the person who can be divided into separate yet intercommunicating psychological parts, and the totality of the environment, which again is differentiated into separate and many parts one, or more than one of which, may predominate at a particular time and impress on the permeable outer core of the differentiated person.

Bronfenbrenner uses the duality of person and environment to evolve a system of propositions which he feels must be observed if experimental work in education is to be 'ecologically valid' (27). He complains that much of existing developmental psychology consists of:

The science of the strange behaviour of children in strange situations with strange adults for the briefest possible periods of time.

He further asserts that:

Much educational research is preoccupied with assessing outcomes and identifying which factors are statistically associated with these outcomes. (28).

In order to redress the balance which he feels is weighted towards Statistics at the expense of Science, He proposes that:

Whether and how people learn in educational settings is a function of sets of forces or systems at two levels - (a) the relations between the characteristics of the learner and his or her surroundings in each of the principle environments in which he lives out his life, and (b) the relations and interconnections that exist between these environments. The scientific study of both sets of relations as they effect learning constitutes the ecology of education and represents a necessary and major focus for education research. (29)

These lengthy extracts are necessary to establish the climate for this thesis which lays heavy emphasis on the prevailing educational environment both locally and nationally and attempts to validate an intervention strategy to ameliorate environmental inadequacy. Bronfenbrenner sees the environment as consisting of four

'nested segments or structures each contained within the next.' The micro-system refers to the immediate setting containing the learner (for example classroom); the meso-system refers to the 'interrelations between the major settings containing the learner' (for example family, school); the exo-system refers to 'the formal and informal concrete social structures that impinge upon or encompass the immediate setting ' (for example the neighbourhood, state agencies, informal social structures); and finally the macro-system refers to the the 'overarching institution of the culture or sub-culture such as the economic, social, educational, legal and political systems, of which the local micro, meso, and exo-systems are the concrete manifestations.' This view of the interaction of personality and environment after Lewin will infiltrate the experimental part of the thesis. The setting and the various interacting and interconnecting forces are inseparable from considerations of curriculum development and reform. The need for curriculum development is often a response to locally prevalent environmental conditions and the immediacy of a problem gives the necessary stimulus for change which is not present in large statutory central bodies.

The aim of constructing a cross-age tutoring programme was to address environmental difficulties in a manner which would also enrich the teaching activity of the professional educator and such a programme whilst locally setting specific, but given a full explanation of the

setting, can be more widely applicable.

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CHAPTER FOUR

LITERATURE ON TUTORING

The immediately striking feature of the tutoring literature is its diversity both in scope and application. Tutoring permeates all levels of education from Pre-School to Adult, and covers most subject areas. The review illustrates the diversity, but focuses more especially on the deficit model - the use of tutoring in special education settings within regular school curricula. Reference is made to national surveys, district wide programmes, cost effectiveness studies and meta-analytic assessments of tutoring research.

The term 'tutoring' can refer to different kinds of pairing. A cross age pairing usually entails an older student - the tutor, working with a younger student - the tutee, whilst a peer pairing refers to both Tutor and tutee being roughly the same age. For the purposes of this review, whilst reference is made to one or other type, no specific attempt is made to isolate one kind of tutoring or the other, or to suggest that one type is superior or preferable. In the present setting cross-age tutoring seemed to offer the best opportunity of applying urgent treatment. In other settings peer tutoring may be equally appropriate. However, it should be noted that some attempts have been made to test empirically the comparative effects of cross-age and peer tutoring. Greenber, Hilman and Grice (1) found that young babies displayed much less aversion to the approach of a strange four year old than they did to the approach of a strange adult, either male or female. Ferguson (2) conducted an experiment with elementary school children in which the

completion of a task was improved by the reinforcement given by either peers or older tutors. Significantly greater achievement was recorded by the group reinforced by their peers. An explanation offered is that same age groups have a greater 'adaptational significance' than do cross-age pairings or groups, and this is borne out by casual interaction in ordinary social contacts. However, Scruggs and Osguthorpe (3) conducted experiments involving both types of tutoring. They found that whilst significant academic gains were made in both groups, only the group involving cross-age tutoring reported gains in attitude towards school and work. The reasons why tutoring is effective is a relatively unexplored field and Gibbs (4) concluded that there was simply not enough empirical data on same age tutoring schemes to attempt to establish the pre-eminence of one type of tutoring over another. Hatrup (5) suggests that a lesson which cross-age tutoring can learn from Peer tutoring is that a positive factor in the relationship is mutual reinforcement and that designers of cross-age programmes might incorporate this element to their advantage.

A by-product of the tutoring exercise which is often incidental to the main aim of the programme - usually academic gain of tutee, is the beneficial effect of the exercise on tutors. Much of the literature notes these effects and further reference will be made to tutor gains, but relatively few studies have been conducted to investigate this aspect in isolation. The seminal study by

Cloward (7) whilst initially designed to improve reading skills in under-achieving students concluded:

Clearly the major impact of the experiment was on the tutors themselves....the high reading gains made by tutors, many of whom were reading far below grade level at the beginning of the study, raise the intriguing question of whether high school drop-outs might be successfully employed as tutors, not just to help underachieving elementary school children, but also to improve their own academic skills.

Yogev and Ronan (7) in a survey of the effect on tutors attributes of tutoring report that 'tutors empathy, altruism and self-esteem increased as a result of participation in the programme' and Zeeman (8) shows that an increase in academic self-concept occurs after tutoring amongst adolescent low-achievers.

Perhaps the most widely reported examples of tutoring programmes relate to work in North American elementary schools, and it was in this setting that I myself first encountered formal tutoring. Cross-Age tutors are known as 'big buddies'. Typically the work is carried out by 5th, 6th, or 7th graders working with younger students generally on a fairly unstructured basis. Lippett (9) describes a more formal arrangement in which higher grade elementary students take cross-age tutoring as a timetable elective, or even as part of the regular 6th Grade curriculum. Beginning readers are a common clientele for tutors. In a sophisticated study in Utah (Von-Harrison (10), 250 first graders took part in a reciprocal programme of peer tutoring resulting in significantly higher early reading skills amongst the

experimental group.

At the post primary level the scope of tutoring activity broadens. Programmes tend to be more structured and more varied. Whilst the traditional areas of math and reading are still popular content areas(e.g. Cloward (11); Holder and Lister (12), the application of tutoring to other content areas is impressive. Hurlow (13) found that by reducing the stress factor in over-anxious High School students by cross-age tutoring, ability in writing skills improved. Gates((14) in the United States and Fitzgibbon and Reay (15) in the United Kingdom describe the effectiveness of peer tutoring in second and foreign language projects. Crist-Whitzel (16) and Swadener (17) use tutoring to implement curriculum work in Computer Studies. Thompson (18) explains how a programme of peer tutoring was used to instruct deaf-blind students in recreational aquatics, and Malvin (19) found cross-age tutoring an effective medium in educational approaches to drug abuse prevention.

Several studies report findings on the use of behaviourally disordered students in both peer and cross-age settings. Favourable outcomes included reduced rates of absenteeism and disciplinary referrals (Maher (20), and general academic performance (Stowitschek (21). A major concern within many educational jurisdictions is the presence of minority cultures, either indigenous or immigrant, and tutoring has been used

successfully to ameliorate some cross-cultural problems. In the United States, for example, programmes exist for the tutoring of native Indians. Ross (22), Latino Students, Valenzuela-Smith (23), and Black and other minority students, Cantalician Center (24), In the United Kingdom efforts towards cross-cultural strategies are becoming ever more urgent. Fitzgibbon (25) advocates peer-tutoring as a method for multi-ethnic education and quotes Slavin (26):

"How often has your teacher assigned you in school to work with a student of another race?" This variable had a strong influence on the number of interracial friendships in the school, on positive attitudes towards integration and towards other races, and on students feelings of being comfortable with students of other races.

Third level education provides further evidence of the use of tutoring. At Northern Illinois University a tutoring programme helps students in both academic and financial planning and offers a 'support and retrieval' opportunity for students who have been 'academically dismissed' from the University. Chapman (27). Since third level entry in North America is much more widely available than it is in these islands and less academically restricted, many colleges find it necessary to provide 'remedial' reading programmes. Peer tutoring is well represented in this area, Bocher (28), and in the general subject areas Annis (29). But even amongst the high fliers at Medical School, tutoring has found a niche. Peer tutoring has been shown to have 'positive effects on academic difficulty amongst both tutors and students'. Walker-Bartnick (30). A guide developed for

instructors in electronics technology explains how peer tutoring can be used to teach students 'nontechnical' skills such as: 'interpersonal and group process skills, problem solving and decision making, planning, communications, reasoning skills, and organisational management skills.' Baerhman and Oliver (31). The value of peer tutoring in adult education for low achieving and normal adults is described by Pierce (32).

The deficit model of tutoring is the one exemplified in this study, and there are many examples in the literature. Wepner (33) describes a peer tutoring programme for application in remedial mathematics and Sindelar (34) explains how a Cross-Age programme improves the skills of younger students of elementary schools experiencing problems with comprehension skills. Reciprocal Peer tutoring, more usually associated with average/above-average students has been found to produce an increase in math performance in under achieving fifth graders. Pigott (35). A major issue in remedial education is the main-streaming of low ability students into regular classes. A project for high school main-streaming based on Peer tutoring has been devised by Gurry (36), whilst a district wide project for rural school mainstreaming involving various types of tutoring is explained in a report from Morningside College (37) Tutoring tends to blur the distinction between formal and informal education, and often, broadly based programmes which cover administrative districts, involve both

professionals and non-professionals. Paired reading projects are rapidly gaining official approval and recognition. Topping (38) in the third annual report of the Kirklees Paired Reading Project in West Yorkshire notes that the project receives a fund of 17 000 pds over five years and offers services such as: briefing sessions, planning consultation, training for parents and children, materials for training and evaluation, finance to defray the cost to teachers of making home evening visits etc. etc. This project now reaches 865 children. Not only are non-professionals recruited in the deficit model, but also role-reversal is utilised when academic low achievers and trainable mentally handicapped students tutor younger non-handicapped children. Osguthorpe and Custer (39).

Whilst much research on tutoring is anecdotal describing individual projects, or wider more broadly based programmes, some studies deal more empirically with problems encountered within the tutorial setting. Considerable emphasis has already been given to ecological validity, and some studies have pointed out flaws in the research including lack of pertinent control groups, or the comparing of volunteers with non-volunteers. Feldman et al. (40). An alternative perspective on field research in such areas as tutoring is described by Keel (41) as the phenomenological perspective, which stresses the need to account for all participants who directly or indirectly relate to such

experiments. Feldman (42) also notes two important variables which are often uncontrolled in tutoring research - friendship between tutor and tutee, and the time given to tutoring being additional time rather than alternative learning time to that of the control group. Happily it was possible to control both these variables in the present experiment.

Some interest has been shown in comparative effectiveness of same-sex/opposite sex pairings. Studies have tended to report e.g. Klentechy (43) that various combinations of tutor/tutee relationships on the basis of same/opposite sex had little or no significance in the determination of the learning outcome, although Foster (44) found that given a choice, tutors tended to choose tutees of their own sex.

Early studies, e.g. Cloward (45) reported that tutors received payment for their work. Investigations have been carried out to assess the importance of rewards. Gabarino (46) found that tutors who did not expect a reward were more effective teachers than those who expected to receive payment, and there appears to be no contradictory evidence to this interesting finding. Age differential has been studied as being a potentially significant variable. Whilst the socially appropriate relationship between peers has already been noted above, a study by Linton (47) of cross-age tutoring using tutors from 8th, 10th and 12th grades found that the most effective tutors were the 12th

graders, their tutees performing significantly better than those working with the lower grade Tutors on mathematics assignments.

A major interest of those involved in tutoring programmes is whether the outcomes of such programmes are significantly different to outcomes of other kinds of teaching/learning settings. Greenwood et al. (48) compared teacher and peer mediated instruction and found higher achievement test scores amongst the tutored group, whilst Russel and Ford (49) compared a programme of cross-age tutoring of mildly handicapped children with the performance of similar students working under the direction of one resource teacher. Again, data from pre-test/post-test experiments indicate that gains are significantly higher amongst the group receiving the tutoring. But by far the most influential study of recent times into tutoring effectiveness was carried out by Levin (50) under the sponsorship of the National Institute for Education in Washington D.C. Levin's purpose was to ascertain the cost-effectiveness of four educational strategies designed as curriculum innovations. These were: computer assisted instruction, extension of the school day, reducing class size, and cross-age tutoring. The measured outcomes were in mathematics and reading skills. The conclusions of the study were summarised thus:

In general tutoring approaches are found to be most cost-effective, whilst reducing class size and increasing the length of the school day are found to be the least cost-effective. Computer assisted learning ranks between these two

Increased significance is attached to this report since it is based on a nationwide survey in the U.S.A. of existing programmes which were then subjected to a process of meta analysis by the experimenters.

Meta-analysis is defined by Fitzgibbon (51) as:

essentially the application of statistical techniques to the task of synthesising research findings.

and an appropriate conclusion to this review would be provided by a reference to the meta-analysis of tutoring programmes carried out by Cohen, Kulik and Kulik (52) They selected a total of 65 studies on tutoring from an original total of over 500 for meta- analysis. Their criteria for inclusion in the final list were: 'studies taking place in elementary or secondary classrooms, studies quantitatively measuring outcomes in a tutored group and a non-tutored group, and studies which were free from common methodological flaws. In the results section of their research they report that of the 65 projects examined, 52 evaluated the academic achievement of the tutored students, and 45 of these reported significant difference in the improvement made compared to that of non-tutored control groups:

'The message from the educational literature on tutoring seems clear enough. These programmes have definite and positive effects on the academic performance and attitudes of those who receive

tutoring. Tutored students outperformed their peers on examinations and they expressed more positive attitudes towards the subjects in which they were tutored.'

Findings also indicated that tutors have more positive attitudes to the subjects which they tutored, and they gained a better understanding of these subject areas. Finally there appears to be a smaller effect on the self-esteem of either tutor or tutee. Whilst there were instances of gain in this area, they were atypical.

The literature clearly gives grounds for optimism that a well developed and structured programme of tutoring could well be an effective intervention strategy in remedial education and in the more general area of curriculum development.

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CHAPTER FIVE

EMPIRICAL INVESTIGATION OF A TUTORING PROGRAMME

The experimental section seeks to evaluate the outcomes of the tutoring programme in terms of academic gain, attitudes towards school and learning and self esteem. Emphasis is placed on setting and its ecology. Two major data collecting techniques are employed, those of pre-test/post-test analysis of results in standardised achievement tests and survey instruments and of participant observation of person to person interaction and of anecdotal reporting.

(A) THE SETTING

The experiment into the efficacy of cross-age tutoring was conducted in a large post-primary school under the control of a vocational education committee. In the light of earlier remarks made relating to ecological validity and the stated aim of observing Bronfenbrenner's guidelines to achieve such validity, a detailed description of the setting follows. The uniqueness of a setting places constraints upon claims of outcomes and a description of the setting indicates difficulties in exact replication. The experiment which takes place in a natural setting can never be replicated exactly, since no two natural settings can ever be identical. However the experiment conducted in the natural setting which includes detailed descriptions of the setting and accounts for all naturally occurring interacting variables seems to offer more possibilities of further natural replication since the experimenter, in addition to assessing outcomes of previous experiments, also appreciates the limitations and possibilities of the setting in which he finds himself.

Admission to second level education in Ireland is normally highly selective. In large urban areas in which the choice of schools is many, selection is more widespread than it is in smaller rural communities where often one second level school provides for a diverse and dispersed population. The school in which this experiment takes place is one of six Post-Primary schools in a provincial town. Because the town forms a well defined population unit, the operation of the second-level selection system can be accurately observed.

Each second level school conducts an enrolment day in the spring to screen entrants for the following september. Since schools under a vocational education committee must accept all students who apply, the examination offered to incoming students is exclusively for screening purposes, whereas those given to students applying to selective schools are usually used for selection purposes. The implications of this procedure are quite evident in most vocational schools, but they are especially obvious in a provincial town in which such trends are clearly identifiable. The term 'tech' became synonymous with the school to which all students eventually gravitated who failed other 'entrance' examinations, or whose parents were realistic enough to appreciate the fact that there was little point in their presenting their children for examination to a selective secondary school. The 'selection' system does not, at the end of the day, need to rely on the unethical use of commercial intelligence

tests since parents apparently, in the main, send their children to schools which they themselves attended, or which seem appropriate to their own social standing. The morality or immorality of a selective systems is not the topic of this thesis,- an exercise which would approximate to tilting at windmills- but a tutoring programme organised in a physically deprived school which is educationally victimised will have radically different outcomes and indeed different aims to a similar programme conducted in a selective school. One of the main aims of this particular experiment was to compensate for the aberrations caused by selection. Table A shows the mean standardised score obtained by incoming first year students on the AH2 Test of General Ability (1) for the past three years.

MEAN I.Q. SCORES OF INCOMING FIRST YEARS

	1987	1986	1985
N	56	64	104
MEAN IQ.	91.35	92.38	92.15

Population mean = 100

A further example is given in Table B of the effects of selection at entry to second level. The percentage of students in each entry is shown who have a Reading Age (R.A) three years or more BELOW their Chronological Age (C.A.)

TABLE B

INCOMING STUDENTS WITH R.A. 3 YEARS BELOW C.A.

	1987	1986	1985
N	56	79	104
	35.4	39.2	30.7

Given this academic imbalance, it is hardly surprising that the status of the school within the community at large is low. A school with a disproportionate number of low achievers will present to the public an image of a school which does not achieve high academic results. In fact the perception of the principals of both boy's secondary schools in the town is that the school is for 'weaker students'. A priority of school policy in these circumstances must be, therefore, to improve the 'image' of the school. This, however, leads to a crisis of identity. The selective secondary schools have a very clear view of their main aim and an almost equally clear view of how that aim is to be achieved. But a non-selective school which sets out to compete with a selective school, and also to fulfil its role in 'catering' for non-achievers can quite easily fail in both tasks. Students need to be constantly reminded of the need for, and the importance of academic prowess, and the drive towards academic achievement, yet they are constantly reminded by their social and educational environment that academic success in the form of third level education is in all probability beyond their reach.

An experiment which seeks to describe academic gains must also describe the setting in which the gains are expected to take place and the nature of those gains with special reference to the expectations of the participants and the physical and non-physical restraints upon those participants. Bronfenbrenner (2) states his third proposition of ecologically valid research as follows:

The criteria for the ecological validity of a research setting for particular research subjects are dictated by the characteristics of the larger social and cultural context from which the subjects are drawn. This is the requirement of CONTEXTUAL VALIDITY.

The school buildings which are the site of the experiment are fifty years old and were designed to cater for the needs of technical education. Necessary expansion to accommodate a wider and developing syllabus takes the form of dilapidated pre-fabricated huts (euphemistically termed 'chalets'), which occupy all original recreation area, and annexes rented from various agencies in several parts of the town centre. The main building is situated a short distance from the town centre in an older and decaying area and is subject to frequent break-ins and vandalism. A major concern for the effectiveness of learning in such conditions is the self-esteem, not only of pupils, but also of teachers.

Most teachers enter the profession by way of a selective secondary system of education and third level training. Their experience of education tends to lie within the confines of this system and its attendant ethos. Many

teachers are totally unprepared for the radically different educational environment which greets them on the first day of teaching in a setting such as the one that provides the location of this experiment. Tensions, frustrations and other problems arise from a clash of expectations and cultures. The discussion of the literature on tutoring indicated many findings which pointed to attitudinal gains by both tutors and tutees, but unfortunately a strategy for attitudinal gains amongst teachers is not part of this study.

Many students entering second level in low status schools are already to all intents and purposes at the end of their formal schooling. Increasingly national schools are holding on to students in an attempt to bolster falling enrolment. Some national schools have introduced a seventh class in order that students may 'repeat entrance exams'. Students entering non-selective second level school may well have repeated up to three years in national school so that by the time they enter second level they may well be approaching the age at which they can legally leave school. A history of unfavourable school achievement coupled with the problems outlined above in the setting does not lend itself to the necessary approach to learning which would culminate in the attempt at a public examination(probably Group Certificate) at the age of 18 years. Table C indicates the number of first year intake students passing the legal age for withdrawing from formal education during the course of

their first year in secondary school.

TABLE C

STUDENTS ATTAINING THE AGE OF 15 YEARS DURING THEIR FIRST YEAR IN SECONDARY SCHOOL

	1987	1986	1985	1984
N	56	79	64	104
	9	11	10	17

Academic achievement is consequently far less a motive for attendance at school than is the notion that school is a place for marking time before gaining sweet release. The effects of this age/curriculum mismatch are clearly seen in Table D showing the percentage of students who entered school and who failed to complete three years at second level, thus leaving school after 10 or 11 years of formal schooling with no evidence whatsoever of any kind of achievement other than attendance, and probably very erratic attendance at that.

TABLE D

PERCENTAGE OF STUDENTS ENTERING SECOND LEVEL EDUCATION WHO FAIL TO COMPLETE THE BASIC THREE YEAR PRE INTER/GROUP CERTIFICATE PROGRAMME

	1984	1983	1982
N	104	110	114
	31	28	35

These figures attain an even greater significance in view of the Vocational Preparation and Training Programmes held in the school, the only such course offered in the area, which are specifically designed for students whose prospects of further education of any kind end with the results of the Group or Inter Certificate examinations, and who arrive from other schools within the catchment area and swell the numbers of the setting's own less successful students.

It is appropriate at this stage to state Propositions 5 and 6 of Bronfenbrenners (3) conditions for ecological validity:

'Proposition 5: In contrast to the conventional research model, in which scientific attention is focussed primarily on the behaviour of certain persons, all engaged in the same role and designated as experimental subjects, an ecological experiment demands equal attention to the properties of the setting in terms of both its physical and social structure, and to the relation that obtains between the properties of the setting and the behaviour manifested by the participants. This is the requirement of SETTING ANALYSIS.

Proposition 6: In contrast to the unidirectional model typically employed in the laboratory, an ecological experiment must allow for reciprocal processes - that is not only of the effect of A on B, but also of B on A. This is the requirement of RECIPROCITY

The description of the experiment which follows accounts for the setting in which the experiment was conducted. Each setting is unique and its boundaries are often ill-defined and blurred with those of other settings. The programme of cross-age tutoring described below is setting

specific. This does not imply impossibility of replication. Indeed a full account of the setting and the interactions within and without point to dissimilarities and similarities with other settings and facilitate perceptions of other similar experiments.

(B) STATEMENT OF HYPOTHESES

The experimental section of this thesis will examine the following hypotheses:

(1) Students who receive tutoring will make significant academic gains in reading and mathematics.

(2) Gains made by tutees will be significantly greater than those made by non-tutees.

(3) Tutees will become more favourably inclined towards school work and school in general.

(4) Significant gains will be made by tutees in self-esteem.

(5) The self-esteem of volunteer tutors will be higher than that of non-Tutors.

(C) OPERATIONAL DEFINITION OF VARIABLES

Tuckman (4) in recommending this short section in a research paper explains as follows: 'Although the method

section will provide a detailed operational statement of how the variables are to be manipulated or measured, it is helpful for the reader to have an early idea of what the variables mean.'

Cross-age tutoring is the instruction of a younger student by an older student. The older student is referred to as the tutor and the younger as the tutee. The tutoring setting is the location of the tutoring which is on a one-on-one basis in as private an environment as possible. The broader educational setting is a post-primary second level non-selective school.

The academic outcomes of tutees on the tutoring programme are to be measured by standardised reading and mathematics tests using a pre-test/post-test format. Results will be compared to those of a non-tutored control group within the same educational setting. Gains in attitude towards school will also be measured using standardised attitudinal inventories and will be similarly compared to those of a control group.

Self-esteem of tutor volunteers compared to non-volunteers will be compared.

The nature of the interaction between tutor and tutee and amongst other persons in contact with the programme will be measured by anecdotal observation, the methodology of which will be described in Section (E) below.

(D) METHOD

(i) SUBJECTS: The experiment was conducted over a period of two years. The tutees were voluntary first year students and the tutors were voluntary post-leaving certificate secretarial students. In the first year of the programme, the number of students entering school was 64, 30 of whom became tutees. In the second year the entry figure was 79, 30 of whom, again became tutees.

The programme was based on a deficit model. First opportunity to join the programme was given to those students identified in pre-entry testing as being the ones most likely to warrant the attention of the remedial teacher. Some attempt is made within the school at first year level to avoid mass identification of achievement levels commonly effected by means of crude streaming. A system of setting is in operation by which students are streamed by subject. The higher ability mathematics class, for example, may not have exactly the same composition as the high ability english class, and so on. Obviously there will be students common to both groups, just as there will be students common to the lowest groups in both subject areas. It is this latter student who is given the first option to take part in tutoring. As was explained above, students within the present setting do not have the same connotations as they would necessarily have in other educational establishments, which would have more representative samples of the student population. Since

the first year intake is already highly streamed before it arrives by the creaming off of the selective secondary schools, 'higher' ability in this setting would by and large approximate to average ability or slightly above average within the normal population distribution. The intake of students into the school also contains a preponderance of boys. The 1985 intake, for example, consisted of 78 boys and the 1986 intake 77 boys. Reference has already been made to the wide range of ages of incoming students. Many of the students derive from low socio-economic backgrounds and some of them have a history of behaviour disorder in their national schools.

The tutors are students who have completed a leaving certificate course and many of them have achieved reasonable results. They arrive in the main from other schools within the town since the present setting is the only school which offers a secretarial course. They are students who either by default or choice have not progressed to third level education. Some of them, whilst attending the secretarial course, will also attend selected regular classes to 'boost their points' with a view to third level education the following year. The normal age range of these students is from 17 to 19 years although there are occasionally more mature students. The oldest volunteer tutor was in her late twenties. All the tutors to date have been female. There is a wide ability range amongst the group, ranging from a poor leaving certificate performance of two passes or less to requisite 5 passes for

entry to regional college. There is a far broader socio-economic range amongst the tutors than there would be amongst the tutees since many arrive from selective secondary schools. Whilst their course is of a year's duration, it is vocational, and a good number would not complete the year. Some find permanent employment, others more lucrative temporary employment. All students on the course receive the stipend of 30.00 pds per month which is supplied from the European Social Fund and which is paid to all students of 15 years or more who are engaged on vocational preparation and training programmes.

(ii) ESTABLISHING THE PROGRAMME: Participation in the tutoring programme is voluntary on the parts of both the tutors and the tutees. Prior to the programme commencing, time is taken to explain its operation. The secretarial class, in the first week of term, is given a briefing over one class period to outline the programme and its implications. The concept of tutoring is explained using such themes as the effectiveness of individual tuition, relaxed learning atmospheres, the generally co-operative attitude of students who enter a tutoring programme etc. etc. The relationship of the programme to their secretarial course is also explained. This course is largely devoted to developing skills necessary for secretarial Work such as typing, word processing, shorthand and general office practice. Tutoring does not constitute any part of their official course and does not figure in any way in their final assessment. However, the students do have the

opportunity to include in their curricula vitae, at the end of the school year, a reference from the tutoring department to state that they have voluntarily given of their time in a helping programme, and in which the type of work carried out is described.

At the end of this short introductory outline, students are encouraged to ask questions. Most frequently expressed initial concerns relate to their inability to teach, discipline problems which they might encounter, use of materials which they will be handling and the effect of the work on their main course load. It is impressed upon the students that the children with whom they will be dealing will have, in most cases, a history of lack of success in school subjects dating back to early national school days, and that individual attention often produces rapid improvement. No special teaching skill is required; simply an interest in the student, and a willingness to listen to their difficulties and help them where possible. This is all that is required for successful tutoring. Help in organising the class, choosing materials and topics for study and in all other aspects of the programme will be given. The secretarial course organiser is also on hand at this introductory meeting to reassure the students that detrimental effect on final grades especially in regard to those students who opt not to take part. The students are then given several days to consider their attitude to what they have heard and they are encouraged to approach the remedial teacher during this time with any other concerns

they might have. On two occasions students have availed of the opportunity to privately confide that during their days in school, they themselves had experienced learning problems, especially reading, and that they had not been treated too sympathetically in the process. Consequently their self-confidence was fairly low, especially in regard to assuming the responsibility of instructing another person. At the first briefing the benefits of teaching had been presented to the class. It was emphasised that in order to teach one must first of all know. They were informed of research which pointed to gains not only amongst tutees, but also amongst tutors. Eventually the fears of the reticent students were allayed and they both went on to form extremely successful tutoring partnerships.

The tutees are chosen from the lower ability groups of the first year intake. As in the case of the tutors, a class period is taken to explain the tutoring programme. The students are informed that extra help will be made available during the school year to those who wish it in subjects such as english, math, irish, or any other subject in which they are having difficulty. They are also told that each student who volunteers to join the programme will have their own individual tutor for the entire school year, and that they will meet on one period per week. Each student will be taken out of a regular class (usually an english or math class) by arrangement with the regular teacher. In the lower ability groups, there can be as many as 8 english and math periods allocated during the weekly

timetable. It is stressed that the programme is entirely voluntary, and that if they do not wish to join, it will have no bearing on any of their other school activities. No student will ever be made to feel left out, since only five or six students will be at tutoring at any one time. There will always be a regular class for those not in the programme and those in the programme who are not at tutoring at that particular period. It is further stressed that whilst joining the programme is voluntary, the student will be expected, once committed, to stay with the programme as long as possible and hopefully for the full year. They are told to think carefully before making a decision since it would not be fair to the tutor to leave on a whim after a few weeks. They are then also given a few days to consider their response. A class representative is chosen to collect names of those interested and to report back.

Once a clear picture emerges of the numbers involved the process of pairing tutor with tutee can begin. The tutors are invited to organise a lottery to decide which of the volunteers will be drafted first, since it often takes a few weeks before everything is fully operational. The tutees are chosen by the remedial teacher in order of perceived need. In the two years of full operation it has been found possible to cater for all who expressed interest. A meeting is then arranged between the first group of tutors and tutees, then subsequent meetings until all pairings are completed. The pairing is also, as far as

possible, a voluntary activity. The usual procedure is for the tutees to be invited to 'choose your tutor' with the prior consent of the tutors. It is felt that the voluntariness is a key element in the programme, and that in the case of the pairing, if it is initiated by the tutees, it has a much better chance of flourishing. If an impasse is reached, it is usually the result of no strong preference being expressed on either side. However, before the tutors are introduced to the tutees, they are asked if they have a preference for a boy or a girl. Since many of the tutors have received all of their formal education to date in single-sex schools, it was believed that they might have felt some trepidation at not only meeting a male student for the first time within a school setting, but also meeting the said male on a one-on-one basis in a fairly private setting. Perhaps in the end not so surprisingly, the tendency is for the tutors, if they express any preference at all, to ask for a male tutee. Generally they express no particular preference. Only on three occasions have the tutors specifically asked for female tutees.

(iii) THE TUTORING TIMETABLE: Before tutoring begins, the tutors are given instructions at a further meeting as to the type of timetable they will be expected to maintain throughout the programme. The instructions are given both verbally and in the form of handouts.

The tutoring session takes place during one forty minute class period per week. In most schools there are small purpose built rooms for specialised activities such as remedial, guidance etc. and various types of store rooms. If absolute privacy is not possible, then vacant regular classrooms are used with not more than three tutoring pairings to any one classroom. The groups are separated by as much space as possible. The tutors are urged to maintain a personal relationship with their tutee such that even if rooms are shared and if there is some interaction between groups, the prime activity is with her own tutee and as much extraneous environmental interference should be eliminated as possible. In fact some quite profitable inter group contact can be made when problems of mutual interest arise in relation say to a particular mathematics problem. The tutors are reminded that they are not teachers. That is to say, they are encouraged to play down the authoritarian demeanour and concentrate on providing an informal, friendly learning environment. It is realised that tutors will feel the inclination to model themselves on the authoritative learning/teaching figures they themselves have experienced over the past 10 years or so (see Bandura above). They are, however, told that they should insist on courtesy and respect at all times, and that if they themselves offer these qualities the odds are that they will receive them in return. They are asked to ensure that a regular procedure is followed. This timetable is set out below:

Forty minute class period: TEN MINUTES reading from the book of the tutee's choice. Ideally there will be two copies of the book, one each for tutor and tutee.

TEN MINUTES work in other aspects of language arts including spelling, punctuation, comprehension etc. in the form of written or oral exercises or games.

TEN MINUTES school work including problems which the tutees may be experiencing in the understanding of regular classroom work or in completing homework assignments.

TEN MINUTES general conversation on such topics as school in general, the 'hidden curriculum', Jackson (5), and relevant non-school topics.

The tutors are given very specific instructions as to the conduct of the session. The primary aim of the programme is to give support to as many reading disabled students as is possible. Therefore, a reading exercise must take place at each meeting. The books written on the theory of reading could quite easily fill a library, and many are of such a complexity and sophistication that only the most accomplished readers could ever hope to come to grips with them. Yet somehow, young children manage to learn to read. It would be irrelevant to launch into a discussion of the conflicting theories of reading, but in order to justify the confidence placed in non-professionals to handle a reading session given this complexity, there has to be,

clearly, some reference to a methodology. I believe that the explanation of reading acquisition most pertinent to the problems presented by adolescent, in fact by any, 'poor' reader, is that of writers such as Frank Smith (6), who emphasise context and meaning and who suggest that concentration on word structure, phonics and other analytic aspects of written language, whilst valuable in some instances, is often counterproductive when the need is for fairly rapid progress to counteract high frustration levels. The contextual approach to teaching reading might be more aptly described after Rogers((7) as the 'facilitation' of reading.

In its most simple form reading instruction in this mode consists of a reader reading to a listener. The level of difficulty of the text has previously been ascertained by reader and listener in consultation. My preference is for a text of which the reader has a minimum of 75 initial word mastery, although the 'instructional' level of a text may well be regarded as somewhat lower than this figure. The reader then reads uninterrupted until he comes to a word which presents difficulty - either the word is mispronounced, half-pronounced or not attempted. The tutor is instructed to adopt the following procedure:

(a) If the word is pronounced more or less correctly with maybe a minor grammatical error - e.g. 'stopped' instead of 'stopping', then the tutor simply repeats the word quickly and correctly so that the flow is maintained and the

context is unbroken.

(b) If the word is mispronounced to the extent that the meaning is lost and the continuity is in danger of collapsing, then the tutor will stop the reading and ask the tutee to 'try that word again'. If a further attempt has similar results, the tutor pronounces the word correctly and the reading continues.

(c) If the reader can make no attempt whatsoever at the word presenting difficulty, the Tutor will allow a brief pause with a friendly 'have a try'. However, the pause must not be so long that the context is lost. If an attempt is made procedures (a) or (b) can be adopted. If there is a continued silence, the tutor pronounces the word and the reading continues.

The contextual approach to reading does not minimise the cognitive complexities of the reading process, but it does suggest that emphasis on the mechanics might clutter up the end product. In order to drive a car from point x to point y one does not need to be a motor mechanic, but as one progresses in the art increased awareness of the processes involved becomes ever more useful. The first mastery of cognitive skills is often achieved by 'doing what comes naturally' and this is surely the message of more enlightened developmental psychology. Also the art of interpersonal relations tends to receive a more prominent role and that of scientific expertise, often misused in a

spurious form of pseudo-intellectualism, receives a more supporting role. Consequently the process of facilitating reading comes under the aegis of the non-professional but motivated and competent tutor.

The provision of material for the second part of the tutoring session is again a matter for mutual discussion and choice. The tutors are made well aware of the range of materials available in the resource room of the Remedial Department and they are encouraged to ensure that what is selected is interesting. They are informed, much to their general disbelief, that learning can be fun. There is increasingly much material on the market of a high interest low vocabulary content. The main caveat issued to the tutors in regard to any written work is that they must resist the red pen syndrome and to restrict corrections to serious errors which destroy the whole meaning of an activity. The third section of the session is entirely at the discretion of the tutee. The tutoring relationship is reciprocal and the tutee sees added importance if he is able to provide some direction. Whilst the time is open-ended as to content, the primacy and inherent difficulty of much second level mathematics ensures that this is a recurring topic and has some interesting implications which will be discussed in the results section of the thesis. Occasionally the crisis is intense and the discussion regarding its solution may well spill over in the last section since matters other than academic considerations are involved.

The last section is intended to be free-wheeling with a free exchange of ideas and opinions. The tutors are, however, warned against encroaching on some fairly hazardous territory, by being presented with the following guidelines:

(a) Too much discussion of a particular teacher is not advisable for obvious reasons. Tutors are encouraged to be positive and try to suggest means of successful attendance in unproductive classes.

(b) Tutors are encouraged to discuss hobbies and extra-curricular activity. They are told that many students who are academically unsuccessful often have interesting outside pursuits at which they are most accomplished and at which they do not get formal recognition, but which are legitimate areas of knowledge not legitimised by the formal education system in its infinite wisdom. This activity will also add to the reciprocity of the relationship with tutor and Tutee comparing interests and learning from each other.

(iv) MONITORING THE PROGRAMME: The tutoring sessions are timetabled by the remedial teacher to coincide with official Remedial Time. In other words, during tutoring, the remedial teacher is free to supervise the groups working at that particular time. Each pairing has a file folder in which is kept relevant work and a record by tutors of the work carried out in each session. Before

tutoring begins, the tutor checks the contents of each file and changes are made as required. During each session the remedial teacher makes at least one visit to each pairing, answering questions, resolving any operational problems, replenishing materials and generally being useful. I believe this is a most important part of the exercise which lends esteem. Despite popular belief to the contrary, teachers are still held in considerable awe by pupils of all ages and temperaments, and they are not accustomed to making requests of teachers in formal school activity. The tutor and tutee both appreciate that the teacher regards tutoring seriously enough to respond to tutor requests wherever possible for different materials, better accommodation, lack of disturbance etc. etc. The status of the programme is elevated. Obviously the teacher needs to be aware of the potential for the abuse of power, but there is evidence, eg. Fitzgibbon (8) that professional educators often tend to underestimate the altruism and sense of responsibility of which young people are capable.

Each tutee is given a letter to take home to his parents/guardians to explain tutoring and to invite them to comment and/or to visit the programme in operation and ask questions directly. Since the programme is voluntary, there must be provision for a parent to refuse to let their child participate if they so wish. Whilst tutoring is carried out exclusively within school during the school day, (as opposed to paired reading programmes described above), parental enthusiasm and co-operation is obviously

an asset.

After each session a short debriefing is arranged for tutors to make any comments which they feel are relevant. If a major problem occurs, then they are able to make an appointment for a longer meeting. Tutors comments, plus teachers observations, notices, suggestions for activities etc. are incorporated into a tutoring 'newsletter' which is distributed at regular intervals.

As the school year progresses a number of tutors find permanent employment and leave the course. This necessitates a juggling of personnel and improvisation. The same is true of those days on which either a Tutor or Tutee is absent from school. Occasionally tutors and tutees find themselves with different partners although every effort is made to maintain a stable partnership for the entire school year. Class teachers are given lists of students who will miss a particular class on a given day, and continued co-operation of more favourable teachers is more likely to be maintained if they are kept well informed, not only of the movements of the tutees, but also of the work being done and the progress being made. Class teachers are encouraged to offer suggestions themselves as to the type of work they would like to see the tutees doing.

As the school year comes to a close a final 'get-together' is held for tutors and tutees. The tutors are given a

reference relating to their work in tutoring.

Copies of the aims and objectives of the programme are made available to school administration and to the relevant department of education authorities.

(E) TECHNIQUES AND DATA INSTRUMENTS

The following instruments were used in data collection and analysis:

(a) SCHONELL SILENT READING TEST B .(9) This is a forty-two item Cloze type standardised test giving a raw score and a reading age (R.A.) comparative to a chronological age (C.A.).

(b) VERNON GRADED ARITHMETIC-MATHEMATICS TEST (10) This is a seventy item standardised test of general mathematical ability which gives a mathematics age (M.A.) comparative to a chronological age (C.A.).

(c) A.H.2 TEST OF GENERAL ABILITY (11) This is a standardised test giving separate scores for verbal, mathematical and perceptual ability and a composite score for all three.

(d) BOXALL TEST OF SCHOOL ANXIETY (12) This is an inventory measuring the level of student anxiety in relation to various aspects of school life.

(e) MEASURE OF SELF ESTEEM (13) This is an inventory measuring a subjects feelings of self-esteem.

Sample items from each of these tests are reproduced in Appendix B.

(f) PARTICIPANT OBSERVATION. Participant observation has its theoretical basis in such work as that of Garfinkel (14) and the major premise of such research methodology is summed up by Payne (15) as follows:

Words and activities which do not possess unequivocal meanings are retained across different occasions of their use. The words can have different meanings depending on their context.

The study of interaction received its most thorough expression in the work of Flanders (16). No attempt is made to follow his example to the letter, but due recognition is given to the creativity and setting of a paired relationship and conversation is logged and analysed as a valid contribution to the assessment of tutoring outcomes.

(F) DATA ANALYSIS

In the spring before first year, entry all students are given a battery of tests including the A.H.2., the Vernon Mathematics Test and the Schonell Reading Test. All students who are tutored plus all non-tutored students of

lower ability who did not volunteer or who were not accommodated within the programme forming the control group are tested again in the Spring of their first school year. A pre-test/post-test analysis is then made to ascertain gains made by both tutored and non-tutored groups. By 'lower' ability is meant the lower two thirds of the entry as identified by scores on the composite A.H.2 Test.

For the purposes of experimental data, only those tutors and tutees are considered who maintained a stable partnership for the complete school year. Data was collected from students entering school in 1985 and in 1986. These groups will be referred to as GROUP 85 and GROUP 86 respectively. The analysis of tutor self-esteem is for 1986 only.

GROUP 85 contains 15 tutees and 24 non-tutees whilst GROUP 86 contains 17 tutees and 19 non-tutees. In the analysis of tutor self-esteem there are 20 volunteer tutors and 17 non-volunteers.

Same group pre-test/post-test was analysed by means of paired t-tests, whilst across group differences were measured by ANOVA. In the case of GROUP 86, scores of achievement were correlated with scores of general intelligence.

Anecdotal information was gathered by means of observer participation. This data was restricted to recording tutor comments of a positive or a negative nature and of the level of conversation initiated by both tutor and tutee. A sample worksheet is found in Appendix C. Also tutor comments of relevance were also recorded by the teacher.

RESULTS

Results significance is coded as follows: $p < .01$ ** ; $p < .05$ * ; $p > .05$ NS .

Table G compares the results obtained by both tutored and non-tutored students in Group 86 in pre-test and post-test on the Schonell Reading Test.

TABLE G COMPARISON OF WITHIN GROUP SCORES ON PRE-TEST AND POST-TEST IN THE SCHONELL READING TEST FOR BOTH TUTORED AND . NON-TUTORED GROUPS. GROUP 86

TUTORED		NON-TUTORED	
N = 17		N = 19	
MEANS			
PRE-TEST	POST-TEST	PRE-TEST	POST-TEST
20.786	24.647	19.000	24.158
.....			
MEAN DIF.	3.943	MEAN DIF.	5.158
t (paired)	2.381	t (paired)	4.342
SIG.LEVEL	0.014	SIG. LEVEL	0.000
p< .05	*	p< .01	**

Both tutored and non-tutored groups showed significant gains in scores of the Reading Test between pre- and post-testing. The tutored group is significant at the .05 level whereas the non-tutored group is significant at the .01 level.

Table H compares the results obtained by both tutored and non-tutored groups in the pre-test, then in the post-test. This is an across group comparison to see if there is any significant difference between the two pre-test scores and the two post-test scores.

TABLE H: COMPARISON OF ACROSS GROUP SCORES ON THE PRE-TEST AND THE POST-TEST OF THE SCHONELL READING TEST BY BOTH TUTORED AND NON-TUTORED GROUPS. GROUP 86

PRE-TEST		POST-TEST	
TUT	NON-TUT	TUT	NON-TUT
N 17	19	17	19
.....			
MEANS			
20.706	19.000	24.647	24.158
.....			
COMP. MEANS	F = 0.457	COMP. MEANS	F = 0.038
SIG. LEVEL	0.254	SIG. LEVEL	0.413
p> .05	NS	p> .05	NS

There is no significant difference between groups either at the pre- or post test stages. There is less difference between groups after tutoring than before since the non-tutored group made the more within group gain.

Table I compares the Pre-Test and post test scores of tutored and non-tutored groups on the Schonell Reading test in Group 85.

TABLE I WITHIN GROUP COMPARISON OF THE SCORES ON THE SCHONELL READING TEST OBTAINED IN GROUP 85 BY BOTH TUTORED AND NON-TUTORED GROUPS.

TUTORED		NON-TUTORED	
N = 15		N = 16	
.....			
PRE-TEST	POST-TEST	PRE-TEST	POST-TEST
MEANS			
18.667	22.467	21.357	25.756
MEAN DIF:	3.800	MEAN DIF:	4.429
t (paired):	3.116	t (paired):	3.002
SIG.LEVEL:.	0.004	SIG LEVEL:	0.005
p< .05	*	p< .05	*

Both tutored and non-tutored groups show highly significant increases in scores on post-test, with the tutored group showing a slight but non-significant greater improvement.

Table J compares the results obtained by both tutored and non-tutored students in the 85 group on the pre-test and post-test scores of the Schonell Reading test. This is an across group comparison to discover if there is a significant difference between the pre-test and post-test scores.

TABLE J: ACROSS GROUP COMPARISON OF PRE-TEST AND POST TEST SCORES OF BOTH TUTORED AND NON-TUTORED STUDENTS OF GROUP 85.

PRE-TEST		POST-TEST	
TUT	NON-TUT	TUT	NON-TUT
N 15	14	15	14
MEANS			
18.667	21.357	22.467	25.786
COMP. MEANS F = 2.648			
SIG. LEVEL 0.112			
p> .05 NS			
COMP. MEANS F = 1.675		SIG. LEVEL 0.204	
p> .05		NS	

There is no significant difference between groups at either pre- or post- test stage, although the between group difference is slightly less at post-test.

Tables K and L examine the scores obtained by Group 86 of the Vernon Mathematics test. Table K is a within-group comparison and Table L an across group comparison.

TABLE K: A WITHIN GROUP COMPARISON OF PRE-TEST AND POST TEST SCORES OBTAINED BY BOTH TUTORED AND NON-TUTORED STUDENTS OF GROUP 86 ON THE VERNON TEST OF MATHEMATICAL ABILITY.

TUTORED		NON-TUTORED	
N	17		19
.....			
MEANS			
PRE-TEST	POST-TEST	PRE-TEST	POST-TEST
35.882	35.529	38.158	38.263
.....			
MEAN DIF.	0.353	MEAN DIF	0.105
t (paired)	0.208	t (paired)	0.128
SIG LEVEL	0.410	SIG LEVEL	0.434
p> .05	NS	p> .05	NS

Neither tutored nor non-tutored group makes any significant gain between pre-test and post test scores. Both pre-test and post scores are almost identical in each case.

TABLE L: ACROSS GROUP COMPARISON OF THE SCORES OBTAINED BY BOTH TUTORED AND NON-TUTORED STUDENTS IN GROUP 86 ON THE VERNON TEST OF MATHEMATICAL ABILITY.

PRE-TEST		POST-TEST	
TUT	NON-TUT	TUT	NON-TUT
N 17	19	17	19
.....			
MEANS			
35.882	38.158	35.529	38.267
.....			
COMP. MEANS	F = 0.773	COMP. MEANS	F = 1.135
SIG. LEVEL	0.198	SIG LEVEL	0.147
p< .05		p< .05	

The post-test scores of both the tutored and the non-tutored students are significantly higher than the pre-test scores. Both differences are significant at the .05 level. In Table M the scores obtained by both tutored and non-tutored students in Group 85 on the Vernon Mathematics Test are compared in a within group comparison.

TABLE M: WITHIN GROUP COMPARISON OF SCORES ON VERNON MATHEMATICS TEST OBTAINED BY TUTORED AND NON-TUTORED STUDENTS IN PRE-TEST AND POST-TEST OF GROUP 85.

TUTORED		NON-TUTORED	
N	15		24
.....			
MEANS			
PRE-TEST	POST-TEST	PRE-TEST	POST-TEST
16.133	19.133	30.417	31.208
.....			
MEAN DIF.	3.000	MEAN DIF.	0.165
t (paired)	4.437	t (paired)	0.165
SIG LEVEL	0.000	SIG LEVEL	0.165
p< .01	**	p> .05	NS

The performance of the tutored group in the pre-test shows a highly significant improvement, whereas the non-tutored group show a slight, but non-significant improvement.

Table M is a Correlation matrix comparing scores on pre-test and post-tests and on the A.H.2 measure of General Ability.

TABLE M. CORRELATION MATRIX OF PRE-TEST AND POST-TEST SCORES OF BOTH TUTORED AND NON-TUTORED STUDENTS IN GROUP 86 INCLUDING A SCORE OF GENERAL ABILITY.

T = TUTORED STUDENTS . NT = NON-TUTORED STUDENTS

			MATH PRE	MATH POST	READ PRE	READ POST	GEN.A	
.....								
MATH	T	.	X	0.612	0.645	X	0.565	.
PRE	NT	.	X	0.866	0.308	X	0.573	.
MATH	T	.	0.612	X	X	0.422	0.708	.
POST	NT	.	0.866	X	X	0.274	0.677	.
READ	T	.	0.645	X	X	0.719	0.836	.
PRE	NT	.	0.308	X	X	0.424	0.691	.
READ	T	.	X	0.422	0.719	X	0.798	.
POST	NT	.	X	0.274	0.424	X	0.474	.
GEN.A	T	.	0.565	0.708	0.836	0.798	X	.
	NT	.	0.573	0.677	0.691	0.474	X	.

Post-test Mathematics scores of tutored students correlate more highly with Gen. A score than with pre-test score, whereas in the non-tutored group the higher correlation is with the Pre-Test score.

In the Reading scores, the correlation of both tutored and non-tutored student's pre-tests with post-test and with Gen.A is very similar.

The attitudes to school were measured on the Boxall Anxiety scale again using both pre-test and post-test procedures. Tables O and P show the results of this investigation by within group analysis and across group analysis of Group 86.

TABLE O: WITHIN GROUP ANALYSIS BY PRE-TEST/POST TEST OF THE ATTITUDES TO SCHOOL OF BOTH TUTORED AND NON-TUTORED STUDENTS BEFORE AND AFTER A PROGRAMME OF TUTORING.

TUTORED		NON-TUTORED	
N	17		19
.....			
MEANS			
PRE-TEST	POST-TEST	PRE-TEST	POST-TEST
8.588	7.412	8.000	7.526
.....			
MEAN DIF.	1.176	MEAN DIF.	0.474
t (paired)	3.128	t (paired)	2.141
SIG.LEVEL	0.003	SIG.LEVEL	0.022
p< .01	**	p< .05	*

The attitude to school of both tutored and non-tutored students has improved significantly, but the improvement made by the tutored group is significantly greater than that of the non-tutored group.

TABLE P. ACROSS GROUP ANALYSIS OF SCORES ON PRE-TEST/POST TEST BOXALL ANXIETY SCORES BY BOTH TUTORED AND NON-TUTORED STUDENTS IN GROUP 86.

PRE-TEST		POST-TEST	
TUT	NON-TUT	TUT	NON-TUT
N 17	19	17	19
MEANS			
8.588	8.000	7.412	7.526
COMP.MEANS	F = 1.454	COMP.MEANS	F = 0.885
SIG.LEVEL	0.317	SIG.LEVEL	0.554
p> .05	NS	p> .05	NS

There is no significant difference between the tutored and non-tutored students at the pre-test or at the post-test stage, but the difference between groups is less at the post-test stage, the tutored group showing more anxiety before tutoring and less after.

NOTE: The Boxall Scale of Anxiety is a descending scale - the lower the score the lower the anxiety. Tables Q and R examine the attitudes to school scores obtained by tutored and non-tutored students in Group 85.

TABLE Q: WITHIN GROUP ANALYSIS BY PRE-TEST/POST TEST OF THE ATTITUDES TO SCHOOL OF BOTH TUTORED AND NON-TUTORED STUDENTS BEFORE AND AFTER A PROGRAMME OF TUTORING.

TUTORED		NON-TUTORED	
N	15		25
.....			
MEAN			
PRE-TEST	POST-TEST	PRE-TEST	POST-TEST
8.933	7.533	7.920	7.640
.....			
MEAN DIF:	1.400	MEAN DIF:	0.280
t (paired)	3.500	t (paired)	1.767
SIG.LEVEL	0.002	SIG.LEVEL	0.043
p< .01	**	p< .05	*

The attitudes to school of both groups improved significantly, but the improvement amongst the tutored group was significantly greater than that amongst the non-tutored group.

TABLE R: ACROSS GROUP ANALYSIS BY PRE-TEST/POST-TEST OF THE ATTITUDES TO SCHOOL OF BOTH TUTORED AND NON-TUTORED STUDENTS BEFORE AND AFTER A PROGRAMME OF TUTORING IN GROUP 85

PRE-TEST		POST TEST	
TUT	NON-TUT	TUT	NON-TUT
N 15	25	15	25
.....			
MEANS			
8.933	7.920	7.533	7.640
.....			
COMP.MEANS	F=0.788	COMP.MEANS	F=0.454
SIG.LEVEL	0.421	SIG LEVEL	0.663
p>.05	NS	P>.05	NS

Again the Tutored group has a higher anxiety level than the non-tutored group in the pre-test, but a lower anxiety level in the post-test.

A worksheet for the experiment in participant observation is included in Appendix 3. Two types of observation were scheduled: (a) the number of responses initiated by Tutors and the number initiated by Tutees, and (b) the positive or negative nature of responses made by the Tutor to the Tutee (whether written or oral). A summary of this informally gathered information is set out below.

A . MEAN PERCENTAGE OF CONVERSATION INITIATED BY TUTOR
AND TUTEE IN EACH SESSION.

TUTOR 53

TUTEE 47

B. MEAN PERCENTAGE OF POSITIVE/NEGATIVE COMMENTS MADE BY
TUTOR IN RELATION TO TUTEE'S WORK/EFFORTS BOTH WRITTEN AND
ORAL.

POSITIVE 76

NEGATIVE 24

INFORMATION GATHERED DURING A TOTAL OF TWENTY-FIVE
DIFFERENT SESSIONS IN THE SPRING OF THE TUTORING YEAR
1987.

No attempt was made to compare these rates and levels of
response to regular classroom activity within the setting,
but the rates contrast with Flander's (see above)
findings.

One empirical investigation was carried out in relation to
the Tutors, that is, to discover if tutoring had brought
about an increase in the level of self-esteem. Both
volunteers and non-volunteers were given the Rosenberg
Scale of Self-Esteem in the late spring of the Tutoring
year.

TABLE S: ANALYSIS OF THE LEVEL OF SELF-ESTEEM OF BOTH VOLUNTEER TUTORS AND NON-VOLUNTEERS FROM THE CLASS OF SECRETARIAL STUDENTS FROM WHICH TUTORS WERE RECRUITED.

	VOLUNTEERS	NON-VOLUNTEERS
N	20	17

	MEAN	
	2.400	2.325

COMP.MEANS	F = 0.086
SIG.LEVEL	0.382
p> .05	NS

This experiment, therefore, failed to support the hypothesis that tutoring would significantly increase the level of self-esteem amongst the tutors.

(H) DISCUSSION

The tutoring programme as described in this thesis is, to the best of my knowledge unique in this country, since advertisements in journals and informal inquiry have failed to reveal similar programmes. Undoubtedly many casual and unstructured tutoring arrangements do exist, but this programme has now been incorporated into the timetable and is part of the recognised formal curriculum

of the school. This being the case, a major aim of the experiment has been achieved, namely to initiate, develop and formalise a curriculum intervention strategy. The programme has the approval of other teachers, of school administrators and of department of education supervisors. It is now seen as an integral part of the post leaving certificate secretarial course. The impact of the programme on the general activities of the school will be discussed below, but there follows firstly, a discussion of the empirical findings of the research.

The literature on tutoring is almost unanimous in its reports of significant academic gains made by tutees as compared to control groups of non-tutored pupils. In only one instance has this been replicated in this research. Table M describes the gains made in mathematics scores by the 85 tutored group as compared with the non-tutored group. The result was not replicated by the Group 86. Whilst the scores in reading show significant increases, the scores of Group 86 show a significant difference between groups, the non-tutored group actually making more gains than the tutored group. (Table G). In the Group 85 reading scores the gains made by the tutored group are marginally greater than those made by the non-tutored group. Clearly the results of academic testing fail to establish a definite trend and are, in part, contradictory. yet this result, by its very nature, and in relation to other factors at work in the setting, points to the intervention of other significant variables.

Considerable space has been given to emphasise the non-representative nature of the student population. Students who arrive in the setting and find themselves in the lower academic streams do not have a history of academic achievement. Table N indicates some discrepancies in correlations between pre-test and post test/general ability scores, but not to a statistically significant level. Perhaps of some considerable interest is the fact that the tutored students, by and large, at the pre- and the post- test stages show very little difference to the non-tutored students. Tutoring is a voluntary activity, and whilst the reality may be somewhat of a let-down, many students feel that the offer of a 'free class' in potentially interesting company is too good to refuse. It is hardly surprising that many volunteer tutees are motivated towards the programme less from a desire to learn and more from, at best curiosity, and at worst a desire to escape from a formal class. Tutoring, by its nature, attracts the student who is most uneasy in the classroom. The intriguing possibility arises, as yet unexplored, that whilst tutored and non-tutored groups show very little difference in academic achievement, the two groups might well have shown a significant difference if the tutored group had remained untutored. Students who volunteer for tutoring show a high incidence of falling foul of school disciplinary procedures. Absence is often regular and sometimes enforced.

Compared to programmes described in the literature, this programme is very modest in terms of tutor/tutee contact. Most programmes include daily contact. It would seem reasonable to assume that if an intervention strategy has a beneficial effect, then the more often the occurrence, the greater the benefit. Given that there are 45 class periods per week, and that tutoring occupies only one of them, then significantly greater academic achievement amongst tutored students would indeed have been dramatic. The one incidence of a statistically significant increase in tutored scores compared to non-tutored scores (that of Group 85 in the test of mathematics - Table M) obviously demands some further explanation.

Mathematics is a subject which is of considerable importance in institutions of secondary education. There are many reasons for this, one of them being the fact that it provides a rigorous and unambiguous measure of student ability. Progress, or lack of it, is easily assessed and teacher demands upon pupils can be quite specific and unambiguous. Consequently children in school either worry about math to distraction or, more rarely, exult in it. The tutoring timetable as set out above, showed a period of ten minutes for tutee directed work followed by ten minutes of general discussion. The tendency for this particular tutored group (Group 85) was to make immediate recourse to math books and request for help in mathematics either in relation to classwork just attempted or homework not completed. Just as teachers can appreciate precise

goals in mathematics, so too can tutors.

The results of the study do not support fully the hypotheses in respect of academic gain and it is only when the ecological context as described by Bronfenbrenner is unravelled that a clearer concept of salient variables can be achieved. Teacher personality, given the degree of contact, must have a significant bearing on student performance. The end may well justify the means, and the ethics of teacher behaviour is a vast uncharted land. If a student, for whatever reason, feels a pressing need to succeed in a subject, say math, then tutoring can provide an opportunity to receive practical assistance and a sense of relief. A narrow view of the empirical data would lead inevitably to a conclusion of seriously questioning the efficacy of the tutoring programme. Similar disappointing results lead to much heartsearching in other areas of remedial education.

The empirical data deriving from the Inventory of Attitudes to School does show a definite trend which is entirely at one with the literature. The tutored students in both group 85 and group 86 showed significantly greater gains than did those students in the non-tutored groups. This has undoubtedly been the most positive outcome of the experiment. In each instance, whilst the non-tutored group's attitude to school improved at the .05 level, the tutored group improved at the .01 level. Given the caveat outlined above, the question arises as to why a brief

meeting once a week can affect attitudes yet have an apparently insignificant effect on academic performance. Perhaps the main concern of the less able or less successful students is not academic prowess as expressed in long term educational goals or potential examination success. Student conversations at breaktime or unguarded moments support this assertion. The main concern is day to day relationships with each other, with teachers, and with the school in general. At worst it is a concern to soften negative judgements on their efforts which threaten their self-concept. At best it is a feeling of indifference to formal education which is seen as something to be tolerated with the minimum personal inconvenience.

If, as Sarbin maintains, many student's efforts require caring responses rather than academic esteem, then it is possible to appreciate the impact a one-on-one learning environment can make. Table D has instanced the enormous yet largely ignored problem of early school leaving. Whilst the tutoring programme has not yet completed the three year cycle, there are indications that attitudinal gains are being reflected in a desire to complete courses wherever possible and to resist the temptation of early dropping out. The modeling of well-motivated and scholastically favourable tutors is clearly a contributing factor.

Evidence derived from discussion with the teaching groups indicates that the tutor/tutee relationship grows more in the direction of personal rather than academic relationships. Many tutors become directly involved in disciplinary problems experienced by tutees, taking on the role of counsel for the defence, and expressing outrage at severity of punishments. It may be a matter of contention and debate as to whether the raising or the lowering of the pupil/teacher ratio affects academic outcomes, but any educational practitioner will testify to the effect on disciplinary problems exercised by the fluctuations in the ratio. The tutor who finds a tutee 'pleasant, hard-working and polite' is amazed to hear that the same tutee has been suspended as a result of unruly class behaviour. The tutor/tutee relationship spills out into the Hallways at break and lunchtime, onto the journey home, and into the convivial atmosphere of 'downtown on saturday'. The formation of social rather than academic partnerships is far easier because it is natural and more relevant to the needs of the tutee. Schools have yet to discover how to maintain the innocent and blissful spirit of enquiry which characterises children in their early development, and which droops and finally withers on entry to second level institutions. The evidence that a high proportion of tutorial work is initiated by the tutee also helps to explain improving attitudes. That attitudinal gains are reflected in the regular classrooms is evidenced by favourable teacher comment during staff meetings to discuss student progress. "x" has improved recently, but,

of course, he goes to tutoring.'

Much of the literature describes dramatic improvements in tutor academic performance and attitudes. This is largely related to tutors drawn from the ranks of special students or those receiving non-typical instruction. Since this programme is an intervention strategy designed to apply to weaker tutees, such enquiry was not considered relevant. Several tutors were reported by their teachers to have a low self-esteem and certainly some of the scores on the Rosenberg scale would bear this out (Appendix 3), but the empirical evidence of the thesis does not indicate a significantly greater increase in self-esteem amongst volunteer tutors, and this finding is supported by the meta-analysis of Kulik and Kulik (op. cit.) suggesting that of all the claims made by the literature on tutoring, the one relating to increases in self-esteem of tutors was the weakest and most difficult to substantiate.

However, the inclusion of the secretarial students within the general activities of the school has given a much needed boost to the general atmosphere. Once seen as a separate entity, they are now an integral part of the daily life of the whole school. They are known by name, they are well-liked and their stabilising effect is recognised by those teachers who are concerned with such things.

At the very best of times, curriculum development at second level seemed to foresee no radical change to the traditional format. We have noted above the preoccupation with the ordering of subjects and with assessment. Formal curriculum development has never really progressed beyond these parameters. Present and threatened restrictions within education seem to many to offer the prospect of ever diminishing quality of education. Many other would argue that an education system which revolves around academic success and which is geared funnel-like towards third - level entry for the minority of those who enter second level, has already been consistently short-changing the majority of students. Reducing teaching manpower will, if anything exacerbate the situation. If, on the other hand, Curriculum development springs not from subject-centredness nor from the needs of the few, legitimate though these needs are, but from the needs of all students as they find themselves in various settings, then teacher inspired development such as the one described here will have a greater impact. The aim of the experiment was to liberate a teacher from restrictive traditionalism so that more students could receive the benefit of his professional training in areas not accessible to the regular classroom teacher. The experiment offered the opportunity to control and organise client-centred instruction, which seems to be much more in the spirit of professionalism than does the ordering of a classroom of poorly motivated students in which the first priority is discipline and the second academic progress

for those able and willing to make such progress. A.S. Neill (18) likened the discipline of such settings as the discipline of the army - the popular conception of the 'good' teacher being that of a dominant, not to say domineering, personality at whose approach the proverbial pin makes a resounding crash - whereas the discipline of true learning is that of the orchestra, in which the many voluntarily place themselves under the guidance of the one, who earns their respect rather than demands it. The experiment offered the opportunity to maturing young people to experience a level of commitment and responsibility quite unlike any which they might have been offered during their formal education previously. The teacher need feel no threat to his professional standing. The management of such a programme can only enhance such standing.

(I) IMPLICATIONS FOR FURTHER RESEARCH

Increasing the incidence of tutoring:

Within this particular programme there is obvious scope for increasing the incidence of tutoring to, if possible, a daily meeting. I think that under such circumstances a much more realistic appraisal could be made of the academic consequences of tutoring. The setting also offers opportunities for experiments into other types of tutoring such as peer tutoring, or weaker older students tutoring younger average students. In order to expand the

programme in this way, increased participation by favourably inclined teachers would be required, and this would be a distinct possibility.

Tutor effectiveness:

A major area which would lend itself to empirical research and which has not yet been addressed in the literature is that of tutor effectiveness. Research tends to emphasise outcomes of tutoring groups and non-tutoring groups. There is little or no research which examines tutoring pairings and attempts to ascertain if significant differences between pairs does occur and if outcomes are affected. Such research would have implications for the teaching process and it would be of major import to theories of instruction and notion of the 'good' or the 'bad' teacher. Some interesting insights might well emerge onto the opaque world of instructional theory.

Curriculum development and teacher role:

Research such as that described in this thesis hopefully points the way to designing and implementing ecologically appropriate curriculum development. This research applies to the deficit model of remedial education. Other successful curriculum strategies locally designed and operated involving dynamic curriculum development are in place in other settings. A well-known and highly successful example is that of team teaching. The

encouraging of teachers to have the confidence to experiment with their own curriculum innovations could be a major feature of inservice training. It is in this type of curriculum development that effective intervention strategies would appear to originate.

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APPENDIX

1. TASK DESCRIPTION FOR ELEMENTARY LEARNING ASSISTANCE

TEACHER. (SCHOOL DISTRICT 2,) 1979.

RESPONSIBILITIES: To determine expectations and procedures for the delivery of learning assistance services within each school, in consultation with school staff, the Principal, and the Supervisor of Special Services. Major responsibilities include the following:

- (a) To provide instruction to the exceptional student.
- (b) To assess students with learning problems.
- (c) To devise and provide programmes necessary to assist the student (educationally and socially) in utilizing his potential.
- (d) To assist the classroom teacher in improving the effectiveness of his/her programme for the exceptional student.
- (e) To be familiar with programmes commonly in use within the district so that he/she may act as a resource person to the classroom teacher in dealing with exceptional students.
- (f) To co-ordinate and maintain individual records of progress on exceptional children in conjunction with the classroom teacher.
- (g) To act as liason between classroom teacher and community agencies.
- (h) To provide adequate written assessment of exceptional students at reporting intervals during the year.
- (i) To maintain parental contact as required for the student's benefit.

2. To carry out other responsibilities as may be assigned by the Supervisor of Special Services through the Principal.

2. SAMPLE ITEMS FROM DATA INSTRUMENTS.

(a) SCHONELL READING TEST. B TIME 15 MINS

Q.6 A boy's name was ROSS SMITHSON, so that each time he wrote his name, he would write altogether _____(A) letters, and of these letters _____(B) of them would be the letter S.

(A) eight, ten, eleven, nine, twelve. (B) two, five, three, four, six.

The test is a 20 item comprehension test with 42 required responses.

(b) GRADED MATHEMATICS - ARITHMETIC TEST JUNIOR. (VERNON)
TIME 30 MINUTES

Q.32 63 days is the same as _____ weeks. _____ Q 36
Divide 8) 272 _____

This test is a 70 item test with a staggered start for various age groups, 11+ beginning a Q.18.

(c) A.H.2 TEST OF GENERAL ABILITY (HEIM ET AL.)

This test is in three parts: Verbal, Numerical and Perceptual.

Verbal: (15 Minutes)

Q.1 sea is to ocean as stream is to

cloudburst waterfall water sand trickle river 1 2 3 4 5 6

Numerical: (15 Minutes)

Q.1. 5 8 11 14 WHAT NUMBER COMES NEXT

18 42 15 17 28 NONE OF THESE

A B C D E F

Perceptual: (12 Minutes)

Q.5. Which one of the six lower figures is like the top two but unlike the other five:

B R

P E C K T A

(d) BOXALL ATTITUDES TO SCHOOL INVENTORY.

This is a 23 item inventory.

Item 1. I feel all funny inside when I have to stand up
and speak in front of the class. YES NO

High/Low attitude responses vary YES/NO

(e) ROSENBERG INVENTORY OF SELF-ESTEEM.

This is a ten item inventory with a marking template.

Item 3 I feel I have a number of good qualities .

STRONGLY AGREE, AGREE, DISAGREE, STRONGLY DISAGREE.

3. WORKSHEET FOR PARTICIPANT OBSERVATION SESSION

TUTOR..... TUTEE.

DATE..... TIME.....

COMMENT		CONVERSATION	
POSITIVE	NEGATIVE	TUTOR	TUTEE
1	1	1	1
1	1	1	1
1	1	1	1
1	1	1	1
1	1	1	1
1	1	1	1
1	1	1	1

T

4. TEST SCORES OF EXPERIMENTAL GROUPS

GROUP 86

TUTORED								NON-TUTORED							
M1	M2	GA	R1	R2	A1	A2		M1	M2	GA	R1	R2	A1	A2	
31	24	80	14	15	05	06		46	51	91	25	24	06	05	
29	29	94	27	25	08	07		40	41	91	24	27	07	07	
30	28	75	10	17	17	13		32	35	75	13	26	10	09	
47	44	94	29	28	13	13		39	40	80	13	21	06	07	
32	38	82	22	25	04	04		42	39	84	11	20	08	08	
42	38	82	22	13	04	03		33	35	88	25	27	05	04	
20	22	74	12	19	07	06		47	40	88	22	21	04	04	
44	29	77	18	16	11	08		23	26	80	16	26	12	11	
42	40	85	14	22	10	11		27	24	74	17	15	12	10	
35	47	91	17	19	09	07		46	45	84	18	22	10	10	
25	23	70	11	17	05	04		44	41	94	25	35	09	10	
46	45	99	37	39	06	05		39	35	79	19	19	03	04	
								30	30	78	08	23	09	07	
								43	40	91	22	24	04	04	
								44	44	92	13	20	02	02	

FEMALES

41	37	91	30	38	13	10		41	44	80	20	26	07	05	
49	43	99	28	42	03	03		37	43	94	34	34	15	14	
41	44	97	31	32	12	08		33	30	80	11	22	11	11	
27	42	80	14	15	10	09		39	44	78	25	27	12	11	
29	31	91	16	37	09	09									

M = MATH; GA = GENERAL ABILITY; R = READING
A = ATTITUDE TO SCHOOL; 1 = PRE-TEST; 2 = POST - TEST.

GROUP 85

TUTORED

M1	M2	R1	R2	A1	A2
16	20	20	22	09	08
16	20	21	27	05	03
28	29	26	22	08	08
18	24	21	29	12	10
28	29	16	23	15	15
08	14	23	29	18	15
03	03	09	10	14	10
10	15	23	24	03	04
15	15	20	32	04	05
20	20	23	20	09	06
17	17	17	22	07	05
18	25	11	18	10	10
18	19	16	16	04	04
20	25	18	21	13	10
07	12	17	18	03	02

NON-TUTORED

M1	M2	R1	R2	A1	A2
46	45	17	20	11	11
21	27	19	22	03	02
30	29	36	27	08	09
13	20	13	08	08	08
29	35	20	25	14	15
11	14	26	32	03	03
42	36	22	30	06	05
26	31	26	22	07	07
29	27	25	31	17	17
35	35	25	23	03	03
11	11	15	20	08	08
39	41	22	30	12	11
27	22	19	31	12	12
38	27	24	22	10	08
41	36			02	02
34	37			10	10
36	38			02	03
37	36			06	06
23	22			06	05
19	25			03	03
35	35			07	07
39	44			09	09
30	27			14	13
40	39			11	09

TUTOR'S SELF-ESTEEM.

TUTOR VOLUNTEERS NON-VOLUNTEERS

5	5
6	0
5	4
4	4
3	3
0	0
1	0
2	2
0	2
1	5
2	1
3	2
0	1
1	3
1	2
2	1
2	3
3	
4	
3	

SELECT

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