The Impact of Streaming on Post-Primary Students' Attitudes to Teachers, Motivation and Learning

Michael J. Barrett, B.A. H.D.E.

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Faculty of Arts

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To My Parents

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ABSTRACT

This is a study of pupils in a streamed environment to see how their motivation, approaches to learning, and general perceptions of their teachers and school environment, differs according to their stream position. The "Review of the Literature" reveals a continuing debate on the efficacy of this form of ability grouping. Much of the criticism of streaming centres on the negative effects it tends to have on the lower stream pupils, in terms of a lowering of academic performance, and eliciting an anti-school, delinquent sub-culture.

The research methodology involved an Inventory chosen for its diversity of measurement, containing scales describing a wide variety of pupil, teacher and school characteristics. The quantitative study deals with a scientifically selected sample of one hundred and nine Third Year Secondary Boys, living in County Kildare.

Our findings did not support current research, with regard to bottom pupils being less positive towards teachers and school than their upper stream counterparts. Indeed, they show a distinct willingness to learn, and display a positiveness towards their teachers, second only to the top stream.

Our research did show, however, that the lower stream pupils tend to be less competent in terms of their skill in learning. Yet, the top stream did not report themselves to be overly skilful in this area, either.

The "Review of Literature" suggests that the negative effects of streaming may be lessened, should enough resources be focused on the pupils in the lower streams. The uncharacteristically positive attitudes of the lower streams appears to suggest that such is the case in this school. We recommend further study in the side effects of this practice, as, while it appears to be benefiting the lower streams, we found an upper stream to be uniquely negative about teachers and school. We suggest that this hostile upper stream may have been unintentionally neglected as a result of an over-concentration of resources in the lower streams.

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CHAPTER 1

INTRODUCTION

Chapter One

1.1 **Introduction:** There has been limited research on sociological aspects of Irish education mainly due to extremely poor funding by the state (Drudy, 1991, p.108). This is disturbing when one considers how existing inequalities have not been reduced even though Ireland has experienced impressive aggregate economic growth since its transition from feudal to industrial and post industrial status. Such groups as the poor and unemployed continue to be marginalised.

Education in the last twenty years, has received much attention. The schools significance has increased with the realisation of its powerful role as a determinant of future status. The determining role of family property and inheritance has been replaced by that of wage bargaining (Rottman and Hannan, 1982). Educational skills and credentials have differentiated between skilled and unskilled manual workers, and between professional, managerial and other routine service workers.

The importance of education in the general welfare of society is well recognised today. The White Paper on education (1995) lists as one of the aims of the Irish education system, 'to provide students with the necessary education and training to support the country's economic development, and to enable

them to make their particular contribution to society in an effective way (p. 10)'.

This thesis is an exploration into the effects of streaming, to establish if pupils in the top and bottom streams differ along a number of dimensions, due to exposure to this particular form of ability grouping. It has been established that both educational outcome, and satisfaction, for those at the bottom streams, is far less than those pupils educated in the top streams (Hannan et al., 1991, p.206). In the light of much criticism which has fallen on this form of ability grouping, we wish to explore whether the educational experience of those in the bottom streams is different from those in the top streams. We also wish to see if the behaviour of pupils in terms of study habits, and approaches to learning, differ in such a way as to undermine their chances of a successful educational outcome.

The general attitudes of these pupils towards school will be studied and compared, relative to stream position, along with some of their personal and academic characteristics. Specific attention will be focused on aspects of pupil personality, motivation levels, styles and strategies of learning, and general attitude towards school and teachers. These scales will then be studied to establish if there are noticeable differences between the characteristics of pupils in the lower streams and those in the upper streams. The bulk of research

tend to point to vast differences in the cultures, attitudes and behaviour of pupils in the top streams compared to those in the bottom.

In recent years streaming has received a lot of attention and is the subject of much debate about its effectiveness as a form of ability grouping (Alexander and McDill, 1976; Lynch, 1988; Hannan and Boyle, 1987; Drudy and Lynch, 1993).

Hannan and Boyle (1987) report that increasing levels of differentiation in the schooling process have no discernible positive effects on average attainment levels but do however, though not statistically significant, have slight negative effects.

There is also mounting evidence to suggest that pupils from the lower stream tend to view school and teachers differently from their upper stream counterparts (Lynch, 1988). The methodology followed in this study is characterised by a self-reported questionnaire which will help shed further light on Lynch's findings.

The subjective characteristic of the the questionnaire epitomizes the motive behind, and the spirit of this study. That is to say it holds the view that, as one author puts it, the pupil's perception of the situation is as important as the situation itself, in understanding the relationships between

concepts, and in analysing and understanding what is involved in effective pupil learning and development.

Research shows (O'Kelly, 1986) that over time the performance of pupils in the higher stream tends to improve while that of the pupils in the lower stream deteriorates. The questionnaire, by measuring pupils approaches to learning, can establish if such a tendency outlined by O'Kelly is due to incorrect study habits. Other findings are, that pupils aspirations and expectations of themselves and others, is strongly influenced by their stream position (Lynch, 1988). There are personality dimensions in the questionnaire which can illuminate this area also.

The need for further study in second-level selection and differentiation practices is highlighted when one considers that streaming, or banding in Irish Post Primary Schools is reported to be 75%. This implies that this form of ability grouping exists in three quarters of all Irish second level schools (Lynch, 1989).

It is therefore fair to say that research supports the notion that the structure and practice of this particular form of selection has notable sociological and psychological effects, and so deserves attention. It is our intention to attempt to map out the differences in attitude and behaviour

of the pupils in the top streams and those in the bottom streams.

On the outset, it must be recognised that this case study is small in scale in comparison to other studies of streaming. Unfortunately, resources dictated that the sample be confined to 110 pupils, while the majority of such studies would yield samples of 600 or more. Nonetheless, this investigation has unearthed some interesting findings that encourage further more comprehensive analysis.

Particular attention is given to focusing on the social and emotional aspects of pupils and how they may impinge on a pupils motivation and ability to learn. I wish to highlight the view that the educational decision makers and instigators are not focused on the motivational and self-image aspects of an individual, which if at a low level, can have far-reaching effects on a pupil's social, emotional, and academic development. Research supports the notion that for some, in these areas, streaming does more to harm than to help.

Kellaghan (1989) referred to the aims of education as being merely a preoccupation with the preparation of students for public exams as is evident from the aims listed by the Curriculum and Examinations Board - "the development of the basic skills of literacy, numeracy and oral communication". Kellaghan argues that the aims should be "improving affective

characteristics, motivation, and self-image (Kellaghan, 1989, p.70)".

In support of this view, Carr and Kurtz (1991) claim that a finer understanding and consideration of pupils motivational and affective states, as well as their cognitive abilities will yield better teaching practices and result in improved pupil performance.

However things have improved. The White Paper (1995) lists as one of its aims, "to nurture a sense of personal identity, self-esteem and awareness of one's particular abilities, aptitudes and limitations, combined with a respect for the rights and beliefs of others (p.10)." Yet the affective or emotional component, which is a recognised aspect of motivation, is still not included, leading to an undermining of its, by now, recognised importance.

After much deliberation and research, it was decided to use an inventory developed by Entwistle et al. (1989). It contains scales describing pupils feelings about their school and teachers, their schoolwork, and themselves. Such scales included pupil approaches to learning, personality variables, study habits, attitudes to teachers, school ethos, and a new pioneering model of school motivation developed by Kozeki (1975). Kozeki's model, instead of concentrating on one domain, which is the tendency of other models, includes three

domains which cater for a wider array of factors that are likely to influence a pupil's motivation. A detailed analysis of this model and Entwistle's inventory will be undertaken in chapter three.

The scales contained in the Entwistle inventory have been found to work internationally (e.g.) Britain and Holland.

The inventory is used with the permission and, indeed, encouragement of Dr. Noel Entwistle of the University of Edinburgh.

The inventory was distributed to a sample of 110 third year pupils of an Irish urban second level school. The results tended to support current research findings in some areas but not in all.

1.2 **An Outline of the Usefulness of the Study.**

The inventory scales describe pupil approaches to learning and studying. This investigation offers a chance to see if a pupil's study habits and learning approaches differ according to stream position, and perhaps uncover a tendency by some of the under-achievers to adopt study habits and approaches to learning that research shows to be ineffective.

Pupil motivation is investigated to see if there are any interstream differences. Three domains are analysed

individually (i.e. cognitive, moral, and affective), to see if any one domain is more likely to be associated with a particular stream. The scales are also aggregated to give an overall score on a pupils motivation.

Motivation is also studied to see if it correlates with any particular teaching style. This may yield useful information for teachers, aiding them in identifying which style of, or approach to, teaching proves most friutful for each stream.

Attitudes to teachers also are analysed on a number of fronts i.e. teacher support and enthusiasm. O'Kelly (1986) found that the top streams perceived teachers in a positive light, while the bottom streams perceived them in a negative light.

Pupil self-evaluation offers an insight into how pupils see themselves in their educational environment. This pupil self-perception is compared and contrasted across streams to see if any interstream differences come to light.

Personality scales such as neuroticism and extraversion are contained in the inventory and may give teachers an overview of a classes personality map which will enhance a teacher's understanding of pupil behaviour.

An outline of the different approaches to learning may help teachers choose more appropriate styles and strategies of

teaching in the classroom. It may also demonstrate to teachers the types of misconceptions pupils may have about what is expected of them when learning.

Parental support and control is looked at to see if they vary in intensity between the upper and lower streams. Current thinking supports the view that such support is paramount to a healthy educational outcome.

There are scales describing school ethos. Reid (1986) reports that as one descends from stream to stream, pupil commitment to school discipline declines and distinctive 'anti-school' informal cultures become more apparent. Interstream attitudes will be explored in this area.

1.3 **The Aims of this Study.**

1. To examine the findings of current and past research and compare them to the findings of this study.

2. To examine the responses of a group of Irish second-level pupils to the Entwistle, Kozeki and Tait (1989) Inventory.

3. To examine if stream position has a discriminating input into the characteristics of pupils being observed, in terms of school motivation and approaches to learning, perceptions of school and teachers. etc.

4. To examine if some of these characteristics of pupils are significantly correlated to any one or more streams.

6. To examine the perceptions of pupils about their teachers and see if stream position is a factor.

7. To investigate which areas are associated most with enhancing pupil school motivation, and to see if streams tend to differ in these associations (e.g.) Are the pupils in the top streams more motivated by an enthusiastic teacher than pupils in the bottom stream.

8. To examine if the teaching style or perceived competence of a teacher in terms of ability to explain, simplify, relate, encourage etc. are associated with a pupil's particular approach to learning, and to see if this association varies according to each stream.

1.4 Subsequent Chapters: Chapter Two will review the literature to date on ability grouping both in Ireland and internationally. Chapter Three will outline the theoretical approach taken by this study. Chapter Four will present the research design and the analysis of data collected. The last chapter collates this date and discusses the main finding and conclusions together with some recommendations for future consideration.

CHAPTER 2

REVIEW OF THE LITERATURE

CHAPTER TWO

2.1 **Introduction**: This chapter focuses on the issues and debates about streaming currently being discussed in educational research. It was considered necessary to include in this chapter a separate section dealing with the role of the teacher in the classroom since the literature suggests (Baker Lunn, 1970) that the beliefs and attitudes of the teacher can have a mediating additional effect on the effects of different types of ability grouping.

2.2 Streaming.

Streaming is one of four principal forms of ability-grouping and has been the subject of much debate in the 1980s and 1990s both in Ireland and in Britain. The interest has been sharpened as a result of recent and expected changes taking place in the postprimary system, which has resulted in a more diverse ability range than ever before (Drudy et al, 1993). These changes include increasing participation rates and the mounting pressure to acquire points for Third Level, along with a falling Junior Cycle population, with the result that schools are reviewing their internal structure and organisation.

The four principal forms of ability grouping identified by Lynch (1988) are outlined below. Some schools, it was found, operate a combination of two or more of the following.

(i) Streaming: This can be defined as the practice of dividing all children of the same particular chronological age into separate classes on the basis of general ability. In Ireland, schools tend to use standardised and/or in-house tests to assess ability for streaming purposes.

(ii) Banding: This is the broad form of grouping pupils in school by ability. Pupils in a year may be split equally into two bands of higher or lower ability; then from within each of the two (or more) bands, two or more classes may be formed each containing pupils of the highest and lowest ability within that band.

(iii) Setting: This is the division of pupils of a particular age group into sets, according to ability in particular subjects. Thus a pupil may be in a top set for maths and in the third set for Irish.

(iv) Mixed Ability Grouping: This is the practice in which the full range of ability is represented with the exception of pupils requiring special education. Mixed ability may refer to a class of pupils, a year group, or the entire group.

Because banding is a relatively new practice it has not received the intensity of investigation offered to streaming over the last decade or so. However, the evidence at hand would suggest that while banding may not be as powerful an

effector as streaming, the implications of both for pupils in schools are similar. It is however, considered more flexible. Notwithstanding, I shall from now on refer to both of these systems under the one heading - streaming.

2.3 **Streaming: Incidence and Extensiveness.**

There has been one major study of ability grouping in Irish Post Primary schools and that was carried out by Hannan and Boyle (1987). They found that schools varied widely in the extent and nature of streaming. Boys' Secondary schools and schools with large cohorts of working-class and middle-class pupils were far more likely to stream and differentiate the curriculum. While Vocational schools had a strong tradition of streaming, Community and Comprehensive schools tended to have an explicit policy not to stream.

Hannan and Boyle (1987) found that the Junior Cycle had a greater incidence of streaming with 51.7% of schools streaming at entry, and 58.5% of schools streaming at Junior Cycle. They reported a reduction in the incidence of streaming at senior cycle to 34.5%.

In contrast, they reported only 5% of schools actually operated a mixed ability system throughout all classes. In support of their findings Lynch (1988) whose study involved 100 schools, reported that 76.7% of Second-level schools in

Ireland practice streaming or banding for at least some classes.

2.4 Streaming: Theoretical Assumption and Debates.

The thinking underlying the practice of streaming is based on an essentialist view, the notion that a child's ability is measurable and remains constant over time, and since children vary in ability it follows that they learn best in classes of children with similar ability. Reid (1986) found that classes are more easily and better taught when they are homogeneous. Otherwise, in classes of mixed ability, the high achievers would be held back, and the less able pupils would be deflated by the constant comparisons with higher performing pupils. It is also assumed that pupils can move up streams if their performance improves. Overall then it has been argued by its supporters that streaming leads to better outcomes for most students, particularly for those at the extremes (Hannan and Boyle, 1987). Therefore, one of the key debates relating to ability grouping, centres on, whether classes should be homogeneous (streamed) or heterogeneous (mixed ability).

However, Rosenbaum (1975) asserted that the allocation of pupils to streams is a "school arbitrary". Hannan and Boyle (1987) tended to side with this view, rejecting the technical-rational reasons offered by school decision makers, as the main explanatory factors.

An outline of their conceptual approach may clarify and put their findings into context. This conceptual approach is based on Perrow (1967), whose model is used to study organisations. It emphasises what Hannan and Boyle refer to as 'technical-rational' explanations for streaming. That is to say, that the determining characteristics of organisations like schools is the way they process their materials (their technology). In the case of a school, the way they select and categorise their intake, the number and complexity of the types and categories into which people are sorted, and the extent of standardisation and centralisation of decisions as to what kind of educational process is appropriate to each category (ibid, p.165).

Hannan and Boyle (1987) hypothesised that the degree of standardisation and differentiation of schooling, in other words why school management decide to stream, is more as a result of one of two phenomena;

(1). Technical-Rational Grounds: This is the rational calculations by school managements about how best to deal with differences in their size, the variance in the intake characteristics of pupils, to the extent to which schools have to cope with different population subgroups with specific educational needs i.e. A proportion of educationally deprived pupils but also a high proportion of academically able pupils (p.106).

(2). Volitional and Institutional Forces: Here, it is assumed that the working relationships of schools are not technically determined but closely reflect the institutional origins and charters of different school-owning authorities, as well as the important social placement or mobility, or social reproduction, roles such as schools play (p106).

Based on their findings, Hannan and Boyle (1987) propose the latter as the main explanatory factors in the Irish instance, as their are much clearer relationships between institutional factors and schooling practices. They document that;

> The schools clearly that show the 6 individual 'technical' factors are not very important predictors of the school's propensity to differentiate their pupils or curricula (Hannan and Boyle, 1987. p.109).

Some research in Britain and the U.S. also supports this view that streaming is used, in some cases, to serve other schooling objectives. It is not used, they contend, to categorise pupils efficiently or fairly, the aim not being to maximise their educational potential (Shavitt, 1984; Barr and Dreeben, 1983).

2.5 **An Outline and Criticism of Test Methods of Streaming.**

Hannan and Boyle (1987) found that most schools use formal pre and post-entry assessment tests, mostly the Drumcondra range

of performance and assessment tests. The literature suggests that a range of other formal aptitude, verbal reasoning, mathematical and reading tests are also used. Most other schools use formal entrance exams based on the courses in Irish, English, and Maths in the Primary School Curriculum, or post-entry examination based on the first year curriculum.

However, psychologists claim only 90% accuracy in even the best tests (Reid, 1986), indicating that 10% of pupils are in the wrong class

> Most schools, however, which stream use a much less reliable and highly variable set of "ability" measurements (Hannan and Boyle, 1987, p.122)

If one is to accept the outcome of linguistic testing it has been found that 15% of pupils tend to be in the wrong streams (Barker Lunn, 1970), and that once assigned to ability groups children tended to remain in them. (Hallinan, 1987)

Research has revealed that even where the most stable and most predicable measures, such as "IQ" or "Verbal Reasoning Ability" tests are used, they explain less than one-third of the variance in later examinations (Greany and Kellaghan, 1984).

However, one must be careful not to over emphasise the deterministic input of these tests in the selection and categorising process. Hannan and Boyle (1987) found that these standardised ability/aptitude tests are not the only determinants of stream destination. They list pupil social class, pupil personal motivation and application, and the schools organisational needs, as almost equally important as these tests when it comes to stream destination.

2.6 Assumptions about Intelligence: Implications for the practice of streaming.

Already the definition of intelligence is being reviewed and the effectiveness of methods to determine it, "artificial environments", questioned. It is being argued today that intelligence has been too narrowly defined in the past to include only a narrow range of aptitudes such as mathematical and linguistic abilities. The notion of defining intelligence as a fixed quantity i.e. "essentialist views", is thus being relaxed.

A debate still continues, and arguments are still being advanced i.e. Vernon (1979), in support of the contribution made by inherited characteristics to the individual differences in behaviour between children.

However, Fontana (1981) makes the point that it is not the separate contribution of either 'nature or nurture' that is

important but the interaction between the two. He asserts that whatever the child's innate potential might be, if he/she is denied the stimuli necessary for its development then it will be of little use to him/her.

Therefore, while a pupil's potential may be inherited and fixed, it is the task of the education system and those who plan it to nurture the pupil to his/her full potential.

The current official Irish position is more in favour of a less rigid description of intelligence. Hannan and Boyle (1987), when referring to methods of ability testing in schools, point to the qualitative aspect of intelligence and how it can vary according to age and to experience;

> Individuals mature at different rates and such underlying capabilities, in any case, change over time (p.122).

Gardner (1983) suggest multiple forms of intelligence and state that intelligence cannot be quantified because it is a quality of human behaviour and will vary between cultures. Western culture has tended to value only certain forms of intelligence e.g. intellectual/academic, and rational/efficient.

Gardner (1983) suggests that the more one challenges intelligence the more it grows and therefore one must provide opportunities for it to develop. He recognises seven forms of intelligence, as follows:

(1) Linguistic.

(2) Musical.

(3) Logical/Mathematical.

(4) Spatial.

(5) Bodily Kinematics (i.e. dancers/athletes)

(6) Intra-personal.

(7) Inter-personal.(teamwork)

In the remainder of the chapter a review will be made of the literature on the effects and implications of streaming. Since research shows (Barker Lunn, 1970) that the beliefs and attitudes of teachers about the effectiveness of streaming is a strong mediating force in the performance of pupils, a brief review of the literature here will also be undertaken.

2.7 Streaming: Review of Literature on Effects and Implications.

Drudy and Lynch (1993) divide the literature on streaming into two types as outlined below. A brief overview of the literature will be done under these two headings.

(i) Learning Effects.

(ii) Social and Emotional Effects.

(i) Learning Effects.

In terms of an overall learning effect Hannan and Boyle (1987) point to no consistent evidence that streaming culminates in gains, in achievement, or cognitive development. There is equally no consistent evidence to suggest that the average academic performance of pupils varies greatly between mixed ability and streamed classes (Barker Lunn, 1970; Kelly, 1978).

However, research does show that pupils of average or lower academic ability tend to perform better in the mixed ability grouping. Albeit pupils of high academic ability tend to perform well in both streamed and mixed ability systems (Postlewhaite and Denton, 1978). Lynch (1988) points to there being no conclusive evidence as to whether higher ability students do better in a streamed as opposed to a mixed ability system.

Yet there is much evidence to suggest that pupils tend to under-perform in streamed systems if they are situated in the bottom streams (Shavitt, 1984). The evidence suggests that the performance of those pupils in the top streams tend to improve while the performance of those in the bottom tends to deteriorate over time (Alexander, et al., 1978; O'Kelly, 1986; Douglas, 1964). Similar findings are noted by Kerckhoff (1986) but he went on to suggest that the ground lost in average performance by low ability groups and the ground gained by high ability groups was greater than comparable

student in ungrouped settings. Therefore, streaming tends to magnify the gains and losses in the performance of pupils in the upper and lower streams respectively.

Hannan and Boyle (1987) agree that, in general, the under achievement of the low ability pupils is effectively a kind of sacrifice for the benefit of the above average pupils, who stand to gain most from that system of grouping.

Those who support the implementation of streaming in schools, often point to the option of moving up stream should a pupil's performance improve. Yet, in practice it appears that this is not the case. Lynch reports that 62% of principals interviewed said that there was little movement between streams or bands. Barker Lunn (1970) supports this finding of inter-stream mobility documenting that only 6% of pupils were moved between streams in any given year.

In reference to increased levels of rigidity and differentiation, Hannan and Boyle (1987) did not observe any discernable positive effects on average pupil attainment levels. They did report a slight negative effect which was evident in the three areas of increased dropout rates, a lowering of average attainment levels, a reduction in the proportion going on to University.

Lynch (1988) outlines the main factors making inter-stream mobility difficult as being;

(i) Administrative difficulties arising from class size.

(ii) Differences between streams in subjects undertaken.

(iii) Polarisation in pupils attitudes.

Subject choice and the chosen level at which pupils may take their examinations, also tend to be influenced by stream position. Hannan et al., (1983) found that the stream the pupil was in was a major determinant of subject options. He observed that the lower streams were often prevented from doing Science or Languages, which can hamper chances of getting into Third-Level at a very early stage. In view of this and of Hannan and Shortall's (1991) findings that pupils in the lower streams were less satisfied with the quality of education they received, it becomes more understandable how lower stream pupils are more likely to leave school earlier than those in the upper streams (Halsey, 1980; Shavitt, 1984).

There is a good deal of evidence to suggest that streaming effects are tantamount to a self-fulfilling Prophecy (Drudy et al., 1993), in that the system tends to mis-define pupils, and the result of such categorisation is to make this sometimes false original conception come true. This is discussed more thoroughly in the section reviewing the role of teachers in streming outcomes.

(ii) Social and Emotional Effects.

Drudy and Lynch (1993), based on the literature available to date, further subdivide these effects into three principal areas;

1. Effects on the Emotional Level.
2. Effects on Friendship Patterns.
3. Pro/Anti School Culture and Behaviour.

1. Effects at the Emotional level.

The literature tends to support the assertion that the effect of streaming is likely to be positive for the upper stream pupil but negative for the pupils in the lower streams. In the realm of self-image and the negative effects of being placed in a lower stream, Kulik and Kulik (1982) report research in this area to be inconclusive. However, Lacey (1970) points to the effects of a label of failure claiming that it becomes internalised by lower stream pupils leading to a degradation of self, the self-worth being undermined. Understandably this is not the case for the upper stream pupils. O'Kelly (1986) also alludes to the presence of low self-image in lower stream pupils, both educationally and personally.

2. Effects on Friendship patterns.

The literature provides strong evidence of clear cut effects of streaming on friendship patterns. Lacey (1970) found that boys allocated to same streams continued their friendship while those allocated to different streams discontinued them.

In fact, the friendship bonds were so strong within streams that it contributed to the rigidity of the system, as pupils were less motivated to achieve higher levels of attainment at the risk of being moved out of the stream and away from their friends (Murphy and Hallinger, 1989). Conversely, Devine (1991) reports that pupils in the upper streams will continue to be motivated to work hard and stay there or risk slipping down to the lower streams.

Research also supports the claim that the attitudes of the upper streams to the lower streams and vice versa, are quite negative and disparaging, i.e. "thick, dosey, spas, fools" or "Brainy buffs, swots, bigheads, licks and pets" (O'Kelly, 1986). Therefore, hostility was reciprocated, as supported by Lynch (1988).

3. Attitudes to School and Behaviour.

Reid (1986) showed that, as one descends streams, commitment to school declines, and a distinctive 'anti school' informal culture becomes more apparent. O'Kelly (1986) found that 90% of lower stream pupils viewed teachers in a negative light while only 34% of pupils in the upper streams viewed teachers in a negative light, the majority seeing teachers as "very nice, helpful, and sensible".

Lacey (1970) found similar results when he studied first year boys who were in a mixed ability system but who were streamed

in second year. In first year they displayed a high commitment to the norms of the school but when streamed, polarized into pro and anti-school subcultures. Ball (1981) supports these findings asserting that lower stream pupils can be much more difficult if not impossible to teach in terms of negative attitude towards teacher and school.

Due to the mounting evidence on the role of teachers in education, on their mediating force in the educational outcome of each individual pupil, and since much of the questionnaire is given to measuring how the pupils see their teachers, it has been decided to review some of the literature on teachers. Again an eclectic approach was taken. Findings from both sociological and psychological research in education have been included in this review.

Drudy and Lynch (1993) have said that the attitudes of teachers are a "crucial variable" in our assessment of the implications of streaming or other forms of ability grouping.

Barker Lunn, (1970) distinguished between two types of teachers based on their attitudes and teaching methods, 'streamers' and 'non-streamers'. Both types were opposites in their methods and styles of teaching, streamers being less concerned about the weaker pupils and having less tolerance levels of noise or talking, favoured physical punishment, and were not permissive.

The crucial finding of Barker Lunn (1970) lay in the noticable persistence of the style and methods of teaching by the streamer-type teacher even when teaching in a mixed ability situation. That is to say, stratification continued to take place mentally within a mixed ability situation. Therefore, this would lead one to believe that the effects of streaming can be inherent in a mixed ability situation if the teacher still streams mentally. Barker Lunn found that the poorest attitudes toward school and self were found among pupils who were taught by streamers in non-streaming schools.

Research also points to the perennial nature of attitudes of a 'streamer' type teacher. Firstly, Drudy and Lynch (1993) noted that streamers are generally products themselves of streamed schooling and thus have a 'conditioned acceptance of streaming'. Furthermore, Reid et al. (1981) found that attendance at in-service courses did not appear to be related to attitudes, and therefore not effective in convincing teachers of the advantages of mixed ability grouping. However, Reid et al did find that if teachers did have mixed ability experience in their initial training, they were more likely to see advantages in it than in other forms of ability grouping.

2.8 **Teacher Expectations.**

Findings on how teacher behaviour can influence pupil self-concept, motivation level, and achievement will first be treated. This will be followed by findings dealing

specifically with teachers in schools which practice ability grouping.

Research shows that teachers tend to believe that large differences exist among metacognitive and knowledge bases of high, average and low performing pupils (Moley et al, 1985). In addition, it was suggested that such assumptions taken by teachers would also influence the quality of teacher /pupil interaction. In support of this, Carr and Kurtz (1991) found that teachers expectations of pupils' abilities affect the type and amount of feedback they give to pupils, and it effects the cognitive and motivational demands they place on pupils. Brattesani et al. (1984) goes further to say that these factors in turn influenced pupil performance.

In the case of a streaming context there are definite findings on how teachers' attitudes to pupils and vice versa are effected by the stream position in which both parties find themselves (Lynch, 1988). This was discussed earlier.

Therefore, the literature reviewed so far shows the influential role teachers' attitudes and beliefs play in the educational outcome of individuals, and that they vary according to stream position. The sensitivity of pupils to teachers' attitudes and expectations are found to be high. This may account for some of the deviant behaviour in the lower streams. In support of this view, Lacey (1970) proposed,

as an explanation for deviant pupil behaviour, that the negative perceptions held by teachers, in their daily work with low-stream pupils, led these pupils to search for alternative bases for their self-esteem.

In further support of the noteworthiness of teachers' attitudes and beliefs, Brown et al. (1983) point to the effects of teachers' negative attitude towards a pupil. He asserts that it will result in a negative self-concept for the pupil, since children are sensitive to differences in teachers' expectations for themselves and their classmates. Inappropriate expectancies or attributions about performance outcomes held by the teacher, if detected by the pupils, may further damage pupil self-concept. Drudy and Lynch suggest that a self-fulfilling prophecy may be in operation, one akin to the Thomas theorem (1923). Merton (1936) explains this theorem. He points out that the self-fulfilling prophecy is, in the beginning, a false definition of the situation evoking a new behaviour which makes the originally false conception come true.

In a study carried out in the USA Rosenthal and Jacobson (1968) entitled Pygmalion in the Classroom, the damaging effects that teacher expectations can have on pupil outcome are demonstrated. In that nation wide study, teachers were given pupils of average ability, but half were led to believe that their particular groups were of a higher ability and half

were of a lower ability. The results showed that those pupils whose teachers expected most from them actually performed better,while those whose teachers expected least from them performed least well. These positive and negative effects of teacher expectations on pupil performance tended to last for a number of years after the experiment. The likelihood of such an experiment being repeated is slim since the ethics of it are obviously questionable.

The power of the teacher to influence a pupil's educational outcome is further underlined because academic self-concept has a stronger relationship with school achievement than does general self-concept (Byrne, 1984; Chapman, 1988).

In fact, Carr and Kurtz (1991) claim that teachers do not attend to the pupil's self concept or attributional beliefs, in terms of individual differences, and that they tend to over generalise their evaluations of students on the basis of achievement.

Such tendency of over generalisations, taken together with Borkowski et al. (1987) findings on how childrens' beliefs affect their skill in learning, demonstrate the dangers of inaccurate generalisations.

The Borkowski team found that childrens' beliefs about their abilities interact with their cognitive and meta-cognitive

skills', thereby influencing achievement. This points to the pervasive dangers of inaccurate generalisation of pupil ability when made by teachers.

Those advocating streaming suggest that experiencing failure in the company of higher ability peers, in a mixed ability situation, can have a deflating effect on the 'failed' pupil. A branch of research called Goal Theory in the USA, suggests that the deflating element, for less capable pupils in a mixed ability setting, need not be the case if the teacher promotes the appropriate goals in class.

Ames and Archer (1988) found that if the teachers promote performance goals, as opposed to mastery goals in the classroom, then a pupil's sense of self-worth is dependent on his /her ability to out perform others. Whereas with mastery goals individuals are orientated towards developing new skills, trying to understand their work, and a belief that effort will lead to a sense of mastery, but based on self-referenced standards. In the mastery environment peers are seen as sources of information rather than as threats to one's self-esteem (Resnick, 1987). Applying this theory to the mixed ability grouping system, those pupils feeling deflated as a result of being outperformed by others, need not feel threatened or devalued if the teacher promotes mastery goals.

Perhaps the labelling effect of being in the lower stream could also be lessened if the principles of this theory could be applied effectively in the classroom.

Finally, it must be recognised that while the variety of effects on the pupil have been outlined, and while the emphasis has been on the more damaging side of streaming, Hannan and Boyle (1987) reported a situation where streaming did work to the advantage of all pupils. In this school streaming was chosen specifically to maximise the achievement of the lower ability group, with maximum effort and resources being directed at them. This took the form of better pupil-teacher ratio, they received extra remedial attention, the most effective teachers were allocated to them, new and appropriate styles of teaching were developed for them, and a well administered home-school liaison established.

2.9 Summary: This chapter attempted to outline and review the current debates about the effects and implications of streaming as a form of ability grouping. The extensive literature and findings concerning teachers' role in the implementation of a system of stratification compelled a special focus in this area. Finally, a brief review of goal theory was explored, whose origins and development are specific to the USA. and which could shed light on how to decontaminate some of the effects of streaming on its pupil output.

The bulk of the literature reviewed demonstrates that further debate and analysis is necessary to evaluate all the considerations (Drudy et al., 1993). There is a sense of urgency engendered due to some developments in the world of Irish education. Post-primary schools have to cope with such a diverse range of ability in their intake as never encountered before. The points race and associated pressures also calls for a review of the grouping procedures of schools, and a lot of soul searching is called for.

The incidence of streaming as reported in the last major study was found to be quite high with the vast majority of schools streaming for at least some classes. Boys' Secondary Schools being one of the most likely to stream.

Rigid essentialist views were suggested to lie behind those calling for streaming in schools, while Hannan and Boyle found that the decision to stream was mainly due to institutional forces, school origins and charters.

The test methods for categorising pupils according to perceived ability were reviewed and the literature suggests that they leave much to be desired, having a tendency to place 10% of pupils into the wrong streams.

The literature on the effects of streaming is reasonably clear cut. In terms of the learning effects of streaming, pupils of

higher ability tended to perform better in a streamed environment, while pupils of a lesser ability range tended to perform better in a mixed ability situation. Emotional effects centred on damage to the self-worth of the individuals in the lower streams. There were few cross stream friendship patterns, a tendency which contributed to the rigidity of the system as pupils were not motivated to move up stream away from established friendships. Interstream perceptions were negative and reciprocated. Perceptions of the school and teachers differed according to stream position, the upper and lower streams being more positive and negative respectively.

A separate look at literature on the role and influences teachers have in the classroom was undertaken. One group of researchers found that teachers who have deep convictions about the advantages of that form of ability grouping, tend to stream mentally, even in a mixed ability environment, resulting in comparable effects on pupils in a streamed system. Efforts to change this type of teacher proved to be difficult but exposure to mixed ability grouping at initial training stage proved to be effective.

The literature suggests that teachers' treatment of pupils differ according to their assessment of pupil ability, and that in the case of streaming, teachers' treatment and expectations of pupils varied according to stream position, the point being that this has a damaging effect on the lower

stream pupils' self concept. Pupils were found to be sensitive to teacher beliefs about their ability and this can retard the pupils' learning skills. The process by which this occurs has been suggested to be analogous to the self-fulfilling prophecy.

The advantages of a teacher promoting certain kinds of goals was outlined. Applying the principles of goal theory, it was suggested they may help lessen the negative self-perception that lower ability pupils experience when faced with higher achievers in a mixed ability setting. It was proposed that a teacher promoting mastery goals, as opposed to performance goals, would achieve this by encouraging self referenced standards of achievement and by eliminating socially derived ones. The net belief being that effort and cooperation results in long term mastery even after short term failure. It was also suggested that the same outcome could be yielded to correct similar effects experienced by pupils placed in the bottom streams.

Finally, an example was given of how streaming can be beneficial to all pupils if the school administration mobilises the necessary resources specifically to improve on all pupil achievement, and not just that of the upper streams.

CHAPTER 3

THEORETICAL APPROACH UNDERTAKEN

Chapter Three

3.1 **Introduction:** The focus of this chapter is on theoretical considerations and can be divided into three main areas. Firstly, an outline will be presented of the main theoretical perspectives that underpin Irish sociological and educational research to date. Secondly, the theoretical approach taken by this investigation will be presented. This will also include the theoretical framework adopted to provide a basis of explanation for the continuous use of streaming. And thirdly, a brief treatise will be offered on the theoretical developments that have taken place in the three main areas measured by the Entwistle inventory; Motivation, Personality, and Learning.

3.2 Sociology and Education in Ireland: A Theoretical Perspective.

Sociological research in Ireland represents two major theoretical perspectives, the structuralist perspective and the interactive model. Most of Irish sociological research and analysis has been carried out within a structuralist perspective (Clancy et al, 1988), structuralist functionalist/ meritocratic to be more precise (Drudy, 1991). Most of the research on internal school processes is located within an Interactive perspective. Infact, in the Republic there are

wide gaps in the research into pupil cultures and classroom interaction (Drudy, 1991).

Irish educational research has been criticised for its tendency to have its theoretical bases unarticulated (Drudy,1991). Others, such as O'Sullivan (1989), claim it to be conceptionally and analytically weak, paradigmatically insulated and ideologically sanitised. Lynch (1987) strongly criticises Irish educational thought claiming it to be based on premises that are consensual, essentialist and characterised by meritocratic individualism.

The theoretical base to this study will be outlined below following a brief summary of some of the more popular and appealing theoretical perspectives encountered by this student to date.

It is worth noting that most social scientists acknowledge that social phenomena are three dimensional: Sociological, Psychological, and Anthropological (McGreil, 1978). Sociology focuses on the social system, social-psychology focuses on personality in society, and social anthropology focuses on culture in society. Infact, society, personality, and culture are considered to be intrinsically related, a view endeavoured to be supported by the methodology of this investigation and, to a large extent, a multi-disciplinary approach to theory and

literature has been adopted. However, little has been drawn from anthropological research.

In support of this approach, McGreil (1978), asserts that the social psychological theory in regard to attitudes is more developed than in the cases of sociology and social anthropology. Much has been drawn from the discipline of psychology in this study, the inventory and much of the research surrounding it are cases in point. Yet, some would contend that psychology has a long way to go before it can be called an exact science (Hall and Linzey, 1978). However, an effort is made to try to point to both the limitations and strengths of all three social disciplines. Even so, it must be emphasised that this investigation has primarily its roots fixed firmly in the sociological arena, in that it wishes to establish if the social structure of a second level school has an effect on the behaviour, both psychological and anthropological, of second-level pupils.

The two most predominant theoretical approaches in Irish educational and sociological research to date are briefly outlined below. It is followed by an outline of the particularistic-universalistic applied to the Irish educational system by Lynch (1989), which goes a long way in explaining the theoretical base behind streaming, and its seemingly passive acceptance by those grouped according to its logic.

(1) The Structural-Functionalism Perspective.

The structural-functionalist perspective has two dimensions: One is based on the assumption that societies strive always to maintain cohesion around shared values, so as to secure social order, and remain stable with generally integrated units. This is known as the consensus approach and is championed by theorists such as Robert Merton and Talcott Parsons. The second dimension is the conflict approach which assumes that societies are built not around consensus or shared values but around considerable conflict and coercion. Such proponents of this view would be Ralf Dahrendorf, David Lockwood, John Rex and Lewis Coser. Yet, both approaches share the view that the organisation and structure of society strongly influences the attitudes, values, institutions and relationships formed by it's inhabitants.

The sociological evidence collected is quantitative in nature and consists of two types, (i) information collected by social surveys, and (ii) official statistics. The method of collection is by either scientific sampling, structured interviews and/or questionnaires, and statistical analysis. Results may be presented in the form of tabulations and correlations and statements may then be made in terms of probabilities and tendencies.

(2) The Interpretive Perspective.

This approach is concerned with subjective meanings and human

intentions, and is often referred to as 'symbolic interactionism'. The origins of this perspective are in the writings of Charles Cooley and George Herbert Mead.

In the realm of education, this approach is generally concerned with the functioning of the school organisation, the patterns of interaction within the classroom, and the nature of the curriculum through which the explicit goals of schooling are realised.

Studies are generally small in scale, tending to focus on small group interaction. Championed by theorists such as Weber and Mead this tradition has enjoyed much attention in the USA.

Data is generally drawn from informal, unstructured and open-ended interviewing, therefore using qualitative methods. This involves participant observation, keeping detailed notebooks, tape-recordings, and interviews. Data is presented in narrative form usually, rather than in the form of statistics and tables.

Particularistic-Universalistic Model of Reproduction.

Lynch (1989) applies insights influenced by American and French neo-Marxist and neo-Weberian social theory to her analysis of the Irish educational system (Drudy, 1991). Lynch argues that the universalizing or equalizing interventions of the state creates sameness in only some

aspects of educational life and thereby facilitates particularistic or inegalitarian interests. Both the particularist and the universalistic dimensions are outlined below.

(i) The Particularistic Contention refers to school life as being entirely class, race or gender specific. There is growing evidence to support this assertion namely the class and racial biases known to exist in streaming (Barker Lunn, 1970; Shavitt, 1984; Drudy and Lynch, 1993), the gender specific character of subject provision in many schools (Byrne, 1978; Hannan et al, 1983), and the class and gender biases which influence teachers' expectations and practices in classrooms (Spender and Spender, 1980).

(ii) The Universalistic Contention refers to school practices which are equalizers. In the realm of the formal curriculum, the manner in which knowledge is selected, organized, and evaluated is generally done the same way for all schools. The content of the syllabus is similar as it is specified annually by a centralized government authority, the Department of Education. All major examinations are public and centrally controlled by the state. The time allocated for each exam, the age and conduct for all examinees, and the procedure for marking are the same for all classes and gender groups.

Schooling, according to this model, could be classified on an ideal type universalistic-pluralistic continuum, some aspects of it being classified as highly particularistic, while others are principally universalistic. The study of the rules and regulations in the Irish educational system tends to make this model quite plausible, given that equality of educational outcome is far from equitable.

3.3 **The Present Study.**

The underlying assumption guiding this study is structuralist in orientation, siding more with the conflict perspective rather than the consensual. It sides with the view that the social structure of society influences and controls social behaviour, but not necessarily resulting in consensus. It contends that the practice of ability grouping, most notably streaming, strongly influences pupils' attitudes, values and the relationships pupils develop. The view taken here is non-essentialist, due to the mounting evidence that pupil intelligence is not static but capable of growth. This study views the notion of meritocracy existing in Ireland with extreme scepticism (Breen et al, 1990) against the background of continued and growing social inequality.

Lynch's (1989) theoretical discussion on the nature of class reproduction using the particularistic/universalistic model is thus looked on favourably in this study, most especially the model's suggestion of how the dangers of streaming is less

known to some and therefore more naively and readily acceptable.

In general support of Lynch, Hannan and Boyle (1987), also believe that the 'key role' in determining the particularistic-universalistic balance in a school is played by those who manage and administer the school, but they differ slightly on the motives behind such decisions. Lynch questions if the motive is 'for the good of the children' as she claims that the teachers and administrators are 'wise' to the negative effects of being in the lower streams, but still persist in its utilisation. Similarly, Hannan and Boyle (1987) place their emphasis on the origins and charters of the schools as being the most likely factors in ability grouping decisions.

Lynch's (1989) model asserts that schools tend to be universalistic in provision aspects such as syllabi, evaluation systems, teacher training, hours and days worked etc. giving the appearance of sameness. However, they tend to be particularistic in consumption, (i.e. knowledge transmission) or the manner in which knowledge is distributed. She cites both with-in and between school streaming as the most obvious examples of this (P.31).

Since working-class pupils are disproportionately represented in the lower streams (Hannan and Boyle, 1987) one can in

addition conclude that schools are class particularistic in their ability grouping. Proponents of this perspective believe that the particularistic aspects of schooling are less visible then the universalistic, but that those who are more attuned to the system such as middle-class parents and teachers are "wise" to the ramifications of streaming and the teacher expectations that go with it. However, there is no incentive for them to enlighten other parents who are less familiar with the system. As Lynch points out, the "wise" who are aware of the need to outperform others, in pursuit of self-interest which is defined as natural in our society, try to maximise the benefits of their own knowledge (Lynch, 1989).

Lynch's approach offers an interesting theoretical insight into the role of the school in Irish society, and certain aspects of its role in the transition of its pupils into the labour market.

In terms of the theoretical approach taken by this investigation in describing individual behaviour in terms of motivation, personality, and learning, we tend to take an eclectic approach. The literature encountered to date is in support of this approach as is vocalised by Eysenck (1987);

> Such variety is important because until the great and glorious day when the secret of the Universe is unlocked within an all encompassing principle, each of

> our theories, those partial models of reality, reveals one truth, but not The Truth (Eysenck, 1987. p.217).

Eysenck is thus supportive of an phenomenological approach to explain a social phenomenon, even calling on incompatible theories and not seeing it as a weakness of spirit or a lack of clear thought. However, it will become obvious that in certain areas such as learning, I have a strong leaning towards the cognitive persuasion, in that definite recognition is given to the notion that pupils have internal mental processes continuously working to make sense of the world. In respect to Personality theory, this study places strong emphasis on the individual, and differences between individuals as encaptured by the Humanistic theories in the Ideographic tradition.

Methodology.

McGreil (1978) defines a methodology as;

> The logical scientific process by which the concepts' concrete correlates are "empiricised", measured, reconceptualised and analysed in the light of the theoretical hypotheses and research objectives.

In terms of methodology, however, this study tends to follow along the lines of the structuralist positivist tradition. That is to say it uses a questionnaire to collect the data it

requires and presents it in quantitative fashion. However, it must be recognised that the scales contained in the inventory are largely derived from research carried out within the interactive perspective, using qualitative data and analysis.

This study acknowledges the dangers of confining one's study to quantitative analysis as pointed out by Entwistle (1987) who noted that on its own it may 'seriously misrepresent the process and outcome of learning'. However, Entwistle's warning was directed at quantitative analysis in a decontextualised experiment. The quantitative analysis undertaken in this study is set in the actual natural uncontrolled context of the classroom.

Entwistle (1987) advocates that with a careful combination of qualitative and quantitative investigations of learning settings, backed by systematic naturalistic experiments and computer simulation, it should be possible to develop a range of models representing interactions between individual characteristics, cognitive processes, and environmental influences.

3.4 Motivation, Personality, and Learning: Theoretical Debates and Developments.

School Motivation.

The American psychologist Samuel Ball (1977) points to the importance of motivation in the realm of educational research.

> ...the message I wish to emphasize is that motivation is a central concept in any theory of education (p.2).

Carr and Kurtz (1991) assert that efforts to improve pupil performance should be facilitated by attending to the unique motivational and affective characteristics of the pupil.

The link between motivation and learning is emphasised by much of the literature. Later an outline of the three domains of motivation will be undertaken and an attempt made to show how each are related to different types of learning and indeed different theories on learning, behaviourist, cognitivist etc. Therefore, every attempt is made to link the two concepts, and this is mirrored in the spirit of Howe's (1984) assertion as quoted below;

> I have a strong feeling that motivational factors are crucial whenever a person achieves anything of significance as a result of learning and thought, and I cannot think of exceptions to this statement (Howe, 1987, p.142).

In discussing any concept scientifically one must outline a definition. The generally accepted definition of motivation is supplied by the Encyclopaedia of Sociology;

> Those states of mind in which actions are mobilised towards some part of the environment and is therefore related to the term goal (Musgrave, 1983 p.253).

The term motivation is usually defined by psychologists as the processes involved in arousing, directing, and sustaining behaviour.

Measurement of Motivation.

The fact that motivational influences are so diverse contributes to the difficulty of measuring them, and this may be why motivation receives less attention in research into learning and instruction than its importance would justify (Richardson, 1987).

This present study utilises a model of school motivation developed by Kozeki (1984). It places equal emphasis on all three domains, cognitive, affective, and moral,instead of the more traditional approach which focused mainly on the cognitive domain and tended to be preoccupied with the prediction of school achievement (Entwistle et al., 1985). Kozeki has replied to Ball (1977) who called for a general theoretical integration of the different attempts to describe

motivation. Some of the more popular theoretical bases from which descriptions of motivation in education have emerged are curiosity theory (Berlyne, 1954; Harter, 1981), need for achievement (McClelland, 1953), the concept of interest or intrinsic motivation, and anxiety or fear of failure (Gandry and Spielberger, 1971) which built the Test Anxiety Questionnaire (Mandler and Sarason, 1952, and finally 'hope for success'. Ball pointed out;

> "...One motivational construct studied with the exclusion of others is not likely to provide educators with the information they need. Perhaps in ten years time, another book on motivation in education could be written each chapter would not be about a single construct but about some aspect of an integrated approach. We'll work to that." (Ball, 1977, p.192).

Entwistle, Thomson and Wilson, (1974) reported several types of motivation that were related to education but they too pointed to a need for 'conceptual clarification'. Besides academic motivation(hope for success), there were also dimensions reflecting fear of failure, extrinsic motivation related to external rewards, and two types of intrinsic motivation one which related to personal interest in the subject matter itself, and the other to self-esteem (Kozeki and Entwistle, 1984).

Kozeki, Entwistle and their branch of research have come closest so far to answering Ball's call for a general theoretical integration.

In describing motivation in education one can distinguish between two different approaches to studying the concept. The studies which utilise a general theoretical framework and try to explain behaviour in a wide range of settings, the rational approach (Cattell 1957; Cattell and Child, 1975, Reichmann and Grasha, 1974) and the second approach,those studies which emphasise empirical procedures and try to build theory more directly out of classroom events and experiences (Finger and Schlesser, 1965; Kozeki, 1980,; Kozeki and Entwistle, 1984; Entwistle and Kozeki, 1985; Ames and Archer, 1987; Ames, 1992). Many studies, however, use both empirical and rational procedures in pursuit of knowledge.

This Kozeki model was developed from a comprehensive series of interviews, questionnaires and tests. It seeks to explain the sources of a pupils' school motivation in terms of three motivational domains:

(i) The Affective Domain: An interaction between pupils relationship with parents, teachers and peers.

(ii) The Cognitive Domain: The pupil's developing demands for independence, competence and interest within their schoolwork.

(iii) The Moral Domain: The growth of trust, compliance or responsibility, the outcome of earlier interactions.

Kozeki and Entwistle (1984) repeatedly found that the nine main motives behind school motivation could be condensed into six factors; (1) Warmth - Good emotional relationships. (2) Sociability - Acceptance by adults and peers. (3) Competence - Gaining knowledge and developing skills. (4) Interest - Adventurousness, play, and achievements. (5) Compliance - Acceptance of school norms and reward-structure. (6) Responsibility - Including self-esteem and concientiousness.

These researchers identified up to 27 different combinations of motivational patterns exhibited by pupils.

The rationale under-pinning Kozeki's model rests on the fact that children experience, in relation to learning, different types of rewards and punishment. Therefore, for any given child, this model suggests, there is a preferred listing of motives which combine to motivate the individual. Not all pupils see high academic achievement as their main goal.

The basic assumption made by Entwistle, Kozeki and their team of researchers is that the motives and motivational structures are developed in the course of child rearing and education. However, It also recognises the role of genetic factors in the development of the personality.

Personality.

The concept of personality is easier to use than to define (Reich and Adcock, 1977). Numerous attempts at providing definitions of personality are extant (Allport, 1937). The number and variety bear testimony to the fact that there is no single definition considered sufficient. The Encyclopaedia of Education Research points to Allport's (1961) definition suggesting it comes closest to encompassing the scope of the various uses of the term and concept.

> The dynamic organisation within the individual of those psychological systems that determine his characteristic behaviour and thought (Allport, 1961).

This definition emphasises the distinct differences in personality that exist between people, while the notion that personality changes due to diverse experiences is signified by the term 'dynamic'. Therefore the psychology of personality is concerned with how a person resembles some people and differs from others. It tries to map out a person's personality uniqueness using scientific methods, focusing on

characteristics that are stable across situations and time, and at the end of the day seeks to aspire to two objectives, explanation and prediction (Reich and Adcock, 1977).

There is no universal theory on personality. The main theories can be grouped into two main branches:

(i) Nomothetic.

(ii) Idiographic.

(i) Nomothetic: Personality is seen as an object possessing universal properties which can be measured scientifically (Vernon, 1963). This branch adopts the following procedures and assumptions.

It identifies the main dimensions on which human personalities can vary, such as Eysenck's 'introversion or extraversion'. This procedure assumes that one person's introversion is the same as another's and hence people's personalities do vary along the same dimensions.

Nomothetic procedure relies on a questionnaire to test the personalities of groups of people. The way in which the individuals answer these questions determine their scores on each of the personality dimensions measured. This procedure assumes that individual questionnaire answers reflect actual behaviour. The final step in the procedure is to construct an

individual's personality profile using all the dimensions measured.

However, the nomothetic approach rests on the assumption that personality is primarily inherited and that environmental factors and experience have little or limited affect on personality, implying that an individual is stuck with the personality he is born with (Buchanan and Huczynski, 1985).

Cattell and Eysenck are two of the more notable exponents of this theory. It is well accepted that questionnaires such as the Eysenck Personality Questionnaire (E. P. Q.) provides a valid measure of some personality traits (Seisdedos, 1988). Indeed the Eysenckian personality traits of Extraversion, Neuroticism, and Inferiority are contained in the Entwistle (1989) inventory, which is utilised in this investigation on streaming.

(ii) Idiographic Approach: This tradition emphasises that the personality is a unique individual structure, knowledge of which is gained by an intensive and extensive study of one person at a time. This study has led to intuitive hypotheses about the nature of personality structure and development. Some champions of this tradition are Freud, Adler, and Jung, with Allport being one of its greatest exponents. Woods (1966) criticises the idiographic approach on the grounds that unique properties cannot be the object of scientific study.

While the idiographic approach does stress the individual, it does see sufficient similarities between people to allow researchers to test large samples and isolate common elements. It must also be acknowledged that nomothetic theorists admit having borrowed some of their concepts from the idiographic tradition (Fontana, 1983).

However, Guilford (1959) sums up the nomothetic position well when he says the nomothetic approach belongs to basic science, while the personal view and the idiographic approach belong to technology. He explains this by saying that in every science the individual case is "properly" regarded as merely an opportunity for making another observation and that the single case belongs to history not science. He concludes by saying that in approaching a final goal, science aims at generalisations that apply to classes of phenomena, not as descriptions of particular events.

Riding (1983), in support for the idiographic approach calls for further research in the individual difference arena and especially in the realm of education;

> Whatever the reason, for the neglect of individual difference research, if it continues it will prevent psychology from becoming a mature science and do much to rob it of the ability to make a contribution to the real world of education (p.166).

An in-depth theoretical discussion on personality is not called for in this investigation considering that there are only four personality scales being used in the inventory. However, the topic of personality is one of the central concerns of education (Croitis, 1977), yet Hall and Linzey (1978) are not optimistic about the progress made on the theoretical front;

> The fact of the matter is that all theories on behaviour are pretty poor theories and all of them leave a lot to be desired in the way of scientific proof. Psychology has a long way to go before it can be called an exact science (p.68).

The literature appears to suggest that all theories have their strengths and their weaknesses, and that one can adopt and adapt appropriate theories depending on the task or objectives on hand, and that there is as of yet no all encompassing theory which explains all social behaviour. This is evident, Eysenck (1987), when he says that the larger the number of theories and the greater their diversity, the more valid can be the ways in which the practitioner can interpret events (p.217).

The personality dimensions used in the Entwistle Inventory (1989) are borrowed from the Junior Eysenck Personality Inventory, and include scales of Extraversion, Neuroticism,

and Inferiority Feelings. A description of these dimensions using one or more items is outlined below.

Extraversion: A10 When people ask me questions I am always ready with my reply.

A64 I like plenty of life and excitement around me.

Neuroticism : A11 I get easily annoyed with things.

A65 I often feel tired and miserable for no good reason.

Inferiority Feelings : A12 I often get discouraged at school.

A84 Most people are better liked than I am.

The underlying question for researchers in this area is whether there exists a relationship between personality dimensions and educational achievement. Research findings so far yield no final or clear answer. Fontana (1983) asserts that the "most important conclusion" that one can reach is that personality variables cannot be viewed in isolation when it comes to assessing their impact on learning. He says these variables must be viewed within the context of a range of other variables that interact with them at every point. This view is also taken by Bennett (1976) who looked at childrens' personalities in relation to teaching styles. He found that well motivated extraverts did better in formal than in informal primary schools, being better able to concentrate in

in a more stable environment. He also found that children with high neuroticism scores did much better also in formal as opposed to informal primary schools, the literature suggesting that perhaps they derive security from the structured situation where, in the absence of uncertainty, they know what is expected of them.

Elliott (1972) noticed that this relationship between extraversion and educational achievement changed with time, a positive relationship being exhibited in the first ten years of schooling, which changed to a positive relationship between neuroticism and educational achievement.

Most studies report that neurotic individuals do much better in higher education then do extraverted individuals. The conclusion most come to is that the environment of higher education is more individual, even lonely, and academic, suiting the introverted. Another likely reason could be the tendency of people to be extraverted for the first 14yrs of life but then becoming more steadily introverted as life goes on.

Learning.

Fontana (1992) defines learning:

> It is a relatively persistent change in an individual's potential behaviour due to experience (p.127).

This definition draws attention to three points that must be considered if one is trying to establish if learning has taken place. The first is that change must take place in the individual in some way, be it on a big or on a small way. The second point also alludes to this change that has taken place but that this change must be due to an experience other than factors that would cause a change in behaviour but do not result in learning, for example malnutrition, ageing, fatigue, alcohol or drugs. The third point in Fontana's definition stresses potential change rather than actual change, since the former constitutes learning even though it may not be immediately obvious. It is important to acknowledge here that a theorist from the behaviourist tradition would not include the word 'potential' in a definition of learning. The behaviourist would argue that if the change in behaviour is not immediately obvious, then nothing has been learned at that particular point in time. Fontana's definition is cognitivist in nature.

On the theoretical front, the literature appears to suggest that learning theories as a whole, along with other facets of the social science, are less successful in finding theories acceptable to all, theories which are capable of summarizing large amounts of knowledge about laws of learning in a fairly small space. One scholar wrote;

> Psychologists to date have been less successful in finding such theories. Theories of learning, in attempting to summarize large amounts of knowledge, lose a good deal in completeness and precision. They are a simplication of skeletal outlines of the material with which they deal. As such they represent a gain in breadth, in organisation, and in simplicity, but a loss in accuracy and detail (Hill, 1963, p.17.

Since the main focus of this study is not on learning but on the effects of streaming, an in-depth treatise of different learning theories is not called for. Instead, a brief review of the two main theoretical approaches to learning will be made. However, the distinction between these two branches of learning theory is not an all or nothing affair, there are numerous middle positions and combinations (Hill, 1963).

The Behaviourist Approach.

This approach maintains that if psychology is to be an exact science it must focus upon the study of observable behaviour, an epistemology called 'empiricism'. The focus is on the responses made by the individual and upon the conditions where they occur. Learning is seen as a connection between stimulus and response or between response and reinforcement, emphasising greatly environmental factors and their influence on this connection.

This approach rejects the use of mentalistic or cognitive explanations of human behaviour or learning because they are not observable, not reachable, and not necessary to the science of human psychology.

Some of the best known theorist in this branch of the psychology of learning are John B. Watson , Edward Thorndike, Ivan Petrovich Pavlov, C.L. HullEdward Tolman, and B.F. Skinner.

Some crticisms of the behaviouristic stance would be that it is unnecessarily restrictive, 'pushing out of psychology those features that make us interesting, different, and above all, human' (Buchanan et al, 1985).

One cognitive psychologist said of behaviourism in the educational context;

> It is almost as though the student were a 'black box', subject to observable inputs and producing observable outputs, but having internal states and processes that must remain entirely mysterious (Richardson, 1987).

The Cognitive Approach.

This approach, like the behaviouristic approach, lays emphasis on the role of the environment in learning. However, it does not confine itself to observable events, but includes also the

inner world of concepts, attitudes, beliefs, memories, etc., in other words how the individual interprets to make sense of the environment. This is an epistemology called 'rationalism'.

It ignores the reinforcement issue and instead concentrates on rejecting the idea that responses are what are learned, suggesting instead that knowledge, beliefs, expectancies, understanding (i.e. cognitions) are what are learned.

It therefore does not see the individual as a mechanical reaction to the environment, but as an active agent in the learning process, who is constantly categorising and ordering the steady stream of information received from the outside world.

A criticism of this branch of theory on human learning is that it tended to have little interest in studying individual differences among individual learners in terms of underlying cognitive function (Richardson, 1987). These theorists also tend to ignore the possibility of development and change within the individuals over the course of time (Entwistle and Hounsell, 1975). This has obvious implications for intelligence, implying that it is fixed and not capable of growth with engagement, and is a backbone assumption for ability grouping as discussed earlier.

The literature that follows is drawn from the cognitive branch in student learning. A brief review of the learning scales utilized in the Entwistle questionnaire will be made. This will be followed by a review of the literature tracing their significance and development.

It is important to emphasise that the approaches to learning outlined below do not describe a pupil's attributes, but rather the relation between an individual and a learning task. The emphasis is on how the pupil sees the situation, the task. Marton and Saljo (1976) noted that it is the job of the teacher and the researcher to discover forms of misconception that the pupil may have. The remaining part of this chapter outlines the theoretical considerations in this 'mental process' undertaken by the pupil and tries to identify the different forms of errors in a pupil's processing and understanding.

The implications for such knowledge concerns teachers, arming them with the information they need, to have a better chance of eliciting the type of learning they value, presumably, deep and meaningful rather than shallow and superficial learning.

Styles, Strategies and Approahces to Learning.

In the last two decades there have been three main groups of researchers in this area. Since the Entwistle Inventory draws

on the first two groups more directly for his scale development they are given more attention below.

(i) Gordan Pask.

(ii) Ference Marton.

(iii) William Perry.

(i) Pask and Scott (1972) outlined two general categories of learning strategy which could be identified in cognitive tasks;

1. Serialist Strategy: Using this strategy a pupil learns, remembers and recapitulates a body of information in terms of string-like cognitive structures, where items are related by simple data links. These pupils are also referred to as "operation learners" who tend to rely on previous knowledge and concentrate on the most relevant facts and details.

2. Holists Style: Using this strategy a pupil learns, remembers and recapitulates as a whole and not using string-like cognitive structures. These pupils are also referred to as "comprehension learners" who appear to be more concerned with personalising their understanding by relating ideas to other topic areas and everyday experience.

Pask (1976) claims that these two categories are "extreme manifestations of more fundamental processes", as some

students are disposed to act like "holists" (comprehension learners) and others like "serialists" (operation learners). His research also suggests that there are pupils who are also able to act in either way, depending on the subject matter. Pask called those who could excel in both persuits "versatile".

Entwistle (1981) claimed that an interplay of Pask's two styles was necessary to build-up a fully deep approach to learning effectively and thereby building up understanding.

(ii) Marton and Saljo (1976) distinguished between two different approaches to learning.

1. Surface-Level Processing: The pupil directs his attention towards learning the text itself, thereby having a "reproductive" conception of learning and is compelled to apply a rote-learning strategy. This type of pupil reproduces what is thought to be required by the teacher.

Distinguishing Characteristics:

- Intention to complete task requirements.
- Memorize information needed for assessments.
- Failure to distinguish principles from examples.
- Treat task as an external imposition.
- Focus on discrete elements without integration.

2. Deep-Level Processing: The pupil directs his attention towards the intended content of the material to be studied, with the intention of seeking understanding.

Distinguishing Characteristics.

- Intention to understand.
- Vigorous interaction with content.
- Relate new ides to previous knowledge.
- Relate concepts to everyday experience.
- Relate evidence to conclusions.
- Examine the logic of the argument.

Entwistle (1981) noted a need to broaden Marton's two approaches and added a third category or learning strategy.

3. Strategic Approach: The pupil's behaviour is characterised by his intention not only to maximise, partly by systematic management of time, effort, and study conditions, but also by the manipulation of the assessment system to his/her own advantage.

Distinguishing Characteristics:

- Intention to obtain highest possible grades.
- Organize time and distribute effort to greatest effect.
- Ensure conditions and material for studying appropriately

- Use previous exam papers to predict questions.
- Be alert to cues about marking schemes.

(iii) William Perry (1970) suggested that students proceed through a sequence of developmental stages, moving from a simple or absolute stance on the basic nature of knowledge to a complex pluralistic perspective.

A General Review Of Research Into the Process and Strategies Of Pupil Learning.

From the outset, it must be noted that there is not total agreement between researchers on student learning, concerning the appropriateness or justifiabilty in using second level research findings to support findings in third level studies. Some have argued explicitly that investigations of student learning in higher education stands in need of its own concepts, methods, and procedures (Knowles, 1978; Perry, 1981). Entwistle (1989) does utilise scales for his study developed in third level studies and is not as adamant about such a confinement. Since the inventory used in this study, on streaming is a product of Entwistle's research to date, I have followed his example and reported the findings on cognitive approaches and outcomes as though the distinction between second level pupil and third level student were of lesser importance, the literature being drawn from both levels.

Marton and Saljo (1976) found that different students learn different things from one and the same text, and that this qualitative difference varies with regard to what is learned instead of differing in regard to how much is learned.

They found that the different types of answers given by students show that the text is interpreted differently by each category of student. These categories are hierarchically related in terms of those who came closest to the intended content of the text, the deep level categories of students. The lowest category was almost entirely empty of content. The authors intended meaning appears to have been entirely missed by this category, the surface level category of student. They also found that there was a marked stability in the level of categories, from a quality of learning point of view, on each occasion that the experiment was carried out.

The same researchers found that there are corresponding differences between the way people set about learning and the actual outcome, as outlined in the categories above. In otherwords, the qualitative variation which they discovered in the outcome of learning should have its counterpart in the process of learning, and vice versa.

In a different study the same year, Marton and Saljo (1976) found further evidence of qualitative differences in learning

but also discovered that students did adapt their way of learning to their conception of what was required of them.

They go on to say that because many students are able to adopt an approach determined by their expectations of what is required of them, the implications are counterproductive.

> ... While many are apparently capable of using 'deep' or 'surface' strategies, it may be that the current demands of the examination system at school(Britain not Ireland) level are interpreted by them as requiring mainly the recall of factual information to the detriment of a deeper level of understanding (p. 125).

Similarly, Meyer (1934) also found that the type of test or exercise expected by a student had considerable impact on performance. An argument could be made that both Meyer and Marton & Saljo have obvious leanings towards Symbolic Interactionism, more accurately CH Cooley's concept of Looking-Glass Self where one derives a sense of oneself as mirrored in the judgements and evaluations of others.

The same study also found that the type of question asked can have considerable effect on the type of information to which people pay attention. Rothkopf (1968) predated this finding;

> ...the most intriguing single result from our work is the character of questioning tends to shape the character of knowledge which is acquired

This body of research appears to suggest that learning seems to be defined differently by individual students depending on the student's perceptions of what is required, 'the anticipated task demands'. Marton (1975) points to the dangers of this in that it could run the risk of being reduced to a search by the student for the type of knowledge expected on the test, instead of the pursuit of knowledge for knowledge sake.

The existence of this kind of student, who by observing the type of question asked by his mentors, can use it as a cue as to future expectations of what is required of him in learning, and so s/heonly learns what will get him/her by. This type of behaviour has led researchers to identify a third strategy, the strategic approach or the 'cue seeker' as coined by Miller and Parlett (1974). It is typified in an extract from an interview with a student from their (1974) study.

> I play the examination game. The examiners play it too...The technique involves knowing what's going to be in the exam and knowing how it's going to be marked (Miller and Partlett, 1974).

Both surface and deep level type students were found to interpret the instruction to read a passage as requiring them to reproduce it in list fashion, irrespective of the contents importance. No such study has been carried out in Ireland to the best of my knowledge, therefore it would be inaccurate to assume the same findings may hold here. However, there is a strong institutional bias to structure material in this manner (encouraging serial recall) and most exams in Britain encourage serial recall (Pask, 1976).

Pask points out that some students are disposed to adopt a strategy of learning they cannot use effectively enough to satisfy the understanding criteria. Therefore, while a student may be quite competent in using a holist strategy, he may be obliged to use a serialist strategy due to perceiving it to be required, and so fail to satisfy the 'understanding' criteria.

The research also suggests that consideration in this area should be given when a teacher is choosing, or adopting or over emphasising a certain kind of strategy. Otherwise, the situation could arise where, as Pask (1976) observes, a teachers strategy is 'mismatched' with that of the student. However, if the teaching strategy is correctlymatched to the same type of student's learning style (e.g. holist/serialist), the student will then learn more quickly and retain the information for longer. A mismatch leads to grossly inferior

performance and a pronounced failure to comprehend the principles underlying the subject matter (Pask, 1976).

There have also been studies attempting to relate study activity to levels of understanding and academic performance (Svennsson 1976) who found that the level of understanding of a text was related to the student's cognitive approach in terms of differing levels of processing, supporting further the research of the latter two groups of researchers.

Svennsson (1976) provides substantial evidence for the conclusion that cognitive approach, as consciously recognised and reported by students, bears a close relationship to the knowledge understood. He found that holists reach a deep level of understanding of the authors intended meaning.

It must be noted that his findings were obtained in a controlled experiment and naturally as Hill (1963) notes the findings would be less precise outside the laboratory. Notwithstanding, there was a clear relationship between cognitive approach, normal studies and examination performance.

While Svennsson (1976) found exam performance to be related to cognitive approach, it was also related to other aspects of study habits such as, as one may expect, attendance records, time spent on independent study, amount of course literature

read, distribution of work over the term, and revision. Therefore, Svennsson (1976) has shown that while approaches and style of the student to learning do play an important part in the level of understanding reached, they are not the whole picture.

3.5 Summary: The purpose of this chapter is to provide some theoretical clarification for this study. An analysis of the general theoretical grounding for Irish sociological and educational research was made inferring that it is mainly in the structuralist, functionalist, meritocratic tradition.

While, on the whole, this investigation is sociological and can trace its roots in the structuralists conflictual tradition, it follows along a more ecclectic and multi-disciplinary approach. In terms of the variety of areas being measured and studied this is a necessity.

In terms of the concept of streaming, Lynch's (1988) particularistic/universalistic model of reproduction is used to provide a basis of explanation, especially in reference to explaining the casual acceptance of this form of ability grouping.

Lynch's particularistic-universalistic of reproducation model on streaming put forward a very interesting explanation for the benign acceptance of streaming by the public. She suggest

that those in the know are aware of the covert negative characteristics of streaming but that it is not deemed advantageous to share such information.

A theoretical review of the three main areas, deemed important in capturing the effects of streaming on pupils perception of self and the school environment, was undertaken. In all three areas the literature suggests that there is no real overall theoretical agreement, but the view is held that research should not suffer, in that there is much to be gained from the cooperation of apparent conflicting theories. Depending on the objectives of a particular study, the greater the diversity of theories, the more valid and representative will be the interpretation of events, and in this adventurous spirit one inches closer to what Eysenck (1987) called The Truth (217).

The last section of this chapter addresses some theoretical consideration concerning the scales measuring different approaches to learning that are utilised in the study.

The three main approaches to learning were described. Research in this area showed that different pupils learned different things from one and the same text. Each different outcome of learning had its counterpart in the process of learning.

It was also established that the approaches adopted by pupils depended very much on what kind of knowledge was expected of

them in the exam. Most could change their approach accordingly, and some were so alerted to the fact that the kinds of knowledge required by the examiner can vary, that they were referred to as 'cue-seekers'.

Some were not as flexible at switching from the kinds of strategies they were used to and so, as a result often mis-read the intended messages in a text. It was also found that a mismatch of styles and strategies between pupil and teacher can occur, again resulting in ineffective knowledge transmission.

However, the strategies and approaches to learning outlined above were not found to be the main explanatory factors in exam performance. Other study activities were also pointed to, such as time spent studying, and school attendance.

It is intended to examine whether any of the above approaches to learning are more identifiable with any one particular stream. The literature to date, from both chapter two and three, would suggest that streams will prove to be strong determinants in all the dimensions measured in this inventory.

CHAPTER 4

RESEARCH DESIGN AND ANALYSIS OF DATA

CHAPTER FOUR

4.1 **Introduction:** The focus of this study is on the likely effects of streaming on Irish Second Level pupils. Pupil personal and academic characteristics will be studied to see if they differ according to stream position.

Of particular interest to us is pupil's perception of the educational environment in which they find themselves. Considerable research suggests that the pupils in the top streams tend to view themselves and their school environment differently from those at the bottom streams. This will be investigated.

Therefore, there was a need to find a questionnaire which could treat as wide a range as possible of school related feelings and experiences, and personal and academic characteristics.

This chapter contains a full description of the inventory at both scale and item level. The population, sampling and administrative procedures are then outlined. The remainder of the chapter reports the extensive results from the analysis of variance and correlation analysis, respectively. These results are then collated and presented in chapter five, and it is in chapter six that a full and final outline and discussion of

our findings is undertaken.

4.2 **RESEARCH INSTRUMENTS.**

The Inventory chosen for this investigation owes its origins to research headed by Professor Noel Entwistle, which is endeavouring to tease out school and teacher effects on learning from those derived from child-rearing and individual differences between pupils (Entwistle et al, 1989). This Inventory represents the best measures of the widest array of areas in a pupil's educational experience that I could find.

> The model being developed is intended to be broad enough to encompass all the major educational aims..." (Entwistle, Kozeki, and Tait, 1989).

The Inventory contains 34 scales describing the dimensions of pupil motivation, personality types, approaches to learning, school ethos, styles and strategies of learning, and perceptions of school, and pupils perception of teachers and their ability to teach.

Each scale contains five Likert-type items with five response categories. Likert's method of summated ratings is now the most popular method used to construct attitude scales (Oskamp, 1977). Responses to each item are scored from 1-5. Strong agreements with positive statements are given a score of 1 and strong disagreements with these items are given a score of 5.

An analysis of variance for the mean scores of each scale was undertaken for the individual streams to see if the difference in scoring between streams reflected an actual difference in the population. In the analysis of mean scores there are three tests that can be undertaken, the Z Test, the T-Test, and in the case of this study, where there were more than two samples (streams), the F-Test is the most appropriate. The F-test is an analysis of variance (ANOVA). Such techniques are extremely popular because they can be adapted to a wide variety of theoretical models organised around independent and dependent variable relationships. A further description of this technique is presented below.

Correlation analysis is undertaken to evaluate the extent to which certain scales are associated. The focus is on the pupils' school motivation, and their different approaches to learning. It is intended to evaluate the extent to which they are associated to pupils' perceptions of their school and teachers. The intention is to compare the results of each stream and see if the associations between these variables differ according to each of the four streams.

The correlation coefficient provides us with a measure of association. This measure, symbolized by r, is a coefficient that ranges from -1.00 to +1.00. A value of .00 indicates that there is no relationship between the values of the two variables. A value of +1.00 or -1.00 indicates that there is a

perfect positive relationship, or a perfect negative (inverse) relationship respectively, between the two variables.

However, it is tempting to think that, if two variables are substantially correlated, that one must be, at least in part, the cause of the other. This is not so. Mere association is insufficient to claim a causal relationship between the two variables (Minium, 1978, p154).

The Likert Scale used in this study.
(1) Definitely Agree (√√), (2) Agree to Some Extent (√), (3) Cannot Decide (?), (4) Disagree to Some Extent (X), and (5) Definitely Disagree (XX).

The whole inventory comprises 180 items, which necessitated dividing the inventory into two parts for the purpose of administration. It was thought by the majority of the teaching staff that the pupils would find it difficult to concentrate for the duration of time that it would take to answer both parts of the inventory. This would result in inferior quality answering.

Part A investigates the pupil's personality and motivation, and analyses his type of learning and study habits. Part B focuses on the pupils perceptions of the school environment.

Only one item is listed per scale below, but it should be

noted that each scale comprises five items. The full list of items per scale can be seen in the Appendix.

Scales were amalgamated to yield more interesting results such as the two scales describing parental control and parental support under the joint heading of Parent. In most cases this resulted in more statistically significant findings.

Part A entitled **ABOUT ME AND MY SCHOOLWORK** contains items and scales relating to;

(i) School Motivation
(ii) Personality
(iii) Approaches to Learning
(iv) Learning Styles and Strategies
(v) The Influence of Home.
(vi) Peer Group Pressure

(i) School Motivation comprises three scales, each describing one domain as discussed in Chapter Three. Each scale in the inventory has five items but only one item per scale is outlined below.

1. Interest in Schoolwork: A86 I get very enthusiastic about some of my schoolwork.
2. Responsibility: A33 I always put a lot of effort into what we are asked to do at school.

3. Affiliation: A13 I enjoy helping other pupils with their problems in schoolwork or in other things.

In the computer analysis all three scales were studied for each stream to see if any of the three domains were more prevalent than the other. Then the three scales were aggregated to get an overall score for school motivation between the groups.

(ii) Personality scales also number three. Each scale was analysed individually but there was no aggregate score, unlike school motivation.

1. Extraversion: A28 Other people seem to think I'm a lively person.
2. Neuroticism: A11 I get easily annoyed with people.
3. Inferiority: A84 Most people are better liked than I am

(iii) Approaches to Learning comprise of three scales.

1. Deep Approach: A56 I try to relate what I read to previous work
2. Surface Approach: A57 I prefer subjects in which the facts to learn are easy to see.
3. Strategic Approach: A58 I plan my working time carefully to make the best use of it.

(iv) Learning Styles and Strategies comprise of five scales.

1. Skill in Learning: A1 I find it easy to understand teacher's instructions about work.
2. Disorganised Work: A23 I'm rather slow at starting my work.
3. Study Skills: A24 I find it easy to find information in a book.
4. Holist Style: A61 I suppose I,m a bit too ready to jump to conclusions.
5. Serialist Style: A44 When I am explaining something, I usually try to give a lot of detail.

(v) Influence of Home is described by two scale. Both individual and aggregate scores were processed in this case. The aggregate analysis of parental input appears under the heading PARENTS. The individual scales are outlined below.

1. Parental Support: A16 I enjoy talking to my parents about things that happen at school
2. Parental Control: and Concern A17 My parents demand a lot of me and expect me to work hard.

(vi) Peer Group Pressure has one scale describing its concept.

A18 Its important for me to keep in with my pals even if it means fooling around.

Part B entitled **ABOUT MY SCHOOL** contains items and scales relating to;

(i) School Ethos.

(ii) Teachers and Teaching.

(iii) Tasks and Task Requirements.

(i) School Ethos is described by eight scales.

1. School Irrelevance:	B57	Most of us are here only because we have to be.
2. Social Climate:	B18	A lot of my classmates are friends of mine.
3. School Rules/ Discipline :	B2	The rules in this school are generally sensible and fair.
4. Teacher Enthusiasm:	B69	A lot of our teachers really seem to enjoy what they are teaching.
5. Teacher Support:	B70	Teachers are always ready to listen to our problems
6. Teacher Control:	B17	Our teachers set high standards in what they expect of us.
7. Teaching Formality:	B14	There are few opportunities given for discussion in class.
8. Teacher Criticism:	B24	We need more praise and encouragement from most of our teachers.

(ii) Teachers and Teaching Skills, as perceived by the pupils,

are measured by six scales. The first four refer to the teachers various skills in teaching. The last two scales refer to the teachers style.

1. Relating: B81 Many of our teachers are good at asking questions that make us think.
2. Simplifying: B10 The worksheets which we are given are generally clear and helpful.
3. Organising: B11 Most of our teachers seem to be good at pitching the lessons at the right level for us.
4. Study Skill /Training: B8 Our teachers explain to us how to go about studying.
5. Holist Style: B48 Too many teachers give us endless facts and details.
6. Serialist Style: B65 Too few teachers show us clearly enough just how we should learn things.

(iii) <u>Tasks and Task Requirements</u> are described by three scales.

1. Factual Assessment: B41 Too many teachers ask us questions in class just about the facts.
2. Freedom in Learning: B43 A lot of teachers encourage us to make use of our own ideas.
3. Workload: B4 We are given far too much work to do in this school.

The statistical package utilised to process the data is the SPSS package.

POPULATION.

In statistical terminology a population refers to a group of persons (or objects) about which the investigator wishes to draw conclusions, and a sample refers to a part of that population (Minium, 1977). A sample is studied in the hope that it will lead to conclusions about the larger "target" population. The population under study in this investigation is Third Year Second Level Boys who are educated in a streamed environment.

THE SAMPLE AND SAMPLING PROCEDURE.

The sample is taken from a Co. Kildare Secondary School during the period 1992/'93. A sample of 110 pupils was drawn representing an urban second level school. The school was chosen randomly from a list of schools in the Kildare region that confirmed they practise streaming as a form of ability grouping.

The school selected has a walking principal. It has four third year classes which are ranked according to perceived ability by the school administration. The class ranked highest in academic ability is 3A, comprising 30 pupils (27%). The next class in ranked order is 3B and has 29 pupils (26%). Class 3C has 24 pupils (22%) and the bottom stream, 3D, has 27 pupils

(25%).

It was decided to concentrate on one specific gender, boys, for a number of reasons. Evidence appears to support the idea that boys and girls tend to behave differently in terms of subject choice and level. Kozeki and Entwistle (1984) reported a gender difference in the level of overall motivation, girls being found to have higher levels of motivation. Therefore, bunching boys' and girls together in one study would yield results that could prove to be quite complex and ambiguous. Lastly, since boy's schools are three times more likely to stream rigidly than girls' schools (Lynch, 1988), and boys' secondary schools were found to be amongst the schools far more likely to stream or differentiate the curriculum (Hannan and Boyle, 1987), it was thought that more pronounced results would be yielded in those schools. In doing so, however, acknowledgement is made to Drudy's (1991) observation of the one-sidedness in gender research.

After much study and discussion with the respective teachers, it was decided not to have a pilot study, as all were quite confident that the inventory would be easily comprehended by all pupils. Further confidence in its intelligibility by all pupils may be taken, when considering the extensive cross cultural testing carried out by Entwistle et al (1989) during its construction, who noted;

"...equivalence of meaning could be, to a large extent guaranteed (p.329)."

However, on the advice of the said teachers it was decided that further clarification of the Entwistle response categories and their respective symbols (// xx) would be helpful to some pupils. Hence, a chart indicating clearly the method of ticking the five response categories, and a written explanation for each symbol was provided for reference during the exercise. Over the two days there were no apparent difficulties encountered or experienced by the pupils involved.

ADMINISTRATION.

The school was asked to make available two teaching periods to allow the two parts of the inventory to be administered separately. To maximise pupil concentration it was decided to conduct the administration of two parts of the questionnaire over two days. The draw back to this was the necessity of pupils writing their names on each part of the inventory for the purpose of matching both parts up during processing. However, great care was taken to emphasize the confidentiality of the answered questionnaires and to ensure that no person on the school staff would have the opportunity to see them. While it is recognised that the procedure may dissuade some pupils from relaying their true feelings, the personal comment section at the end of the questionnaire indicated that most

pupils were far from being slow to air their views.

4.3 ANALYSIS OF DATA AND FINDINGS

The purpose of this analysis is to measure some of the effects of streaming on pupils. The statistical methods used may be classified as follows;

(1) The Analysis of Variance.
(2) Correlation Analysis.

(1) The Analysis of Variance. A detailed description of this technique is not required, since any good social statistics text will contain such information (e.g. Kurtz, 1983). However, to help clarify the rationale behind this statistical technique, it is proposed to test one scale manually, using the required formula. All the scales were tested using the popular social statistics computer package (SPSS).

As outlined earlier in the chapter, the number of samples in a study, determine the type of test utilised to disaggregate the sources of variance in the dependent variable. Since there are four streams being analysed in this study, hence four samples, the F-test (Two-Way ANOVA) is the appropriate test to use.

Put another way and in the context of this study, the F-Test is being used to determine whether the independent variable

(e.g. Streaming) explains a significant proportion of the variance in the dependent variable (e.g. Approaches to Learning or Motivation etc.).

The F-statistic tests the null hypothesis, to see if the means of the population (represented by the samples) are equal;

Ho: U1 = U2 = U3 = U4

The hypothesis assumes that the observed differences are simply a function of random sampling variation.

If the null hypothesis is accepted, then it can be assumed that observed differences in the means are due to random variation in sampling and are no greater than one would expect by chance. Therefore, one could conclude for example, that the independent variable (e.g. Stream Level) does not account for the variance in the scores in each sample on parental control.

However, if the null hypothesis is rejected, it implies that the difference between the streams (samples) account for a significant portion of the variance in the dependent variable (Scales e.g. Parental Control).

Each of the 36 scales in the inventory will be analysed using the F-test, to see if streaming accounts for a significant

portion of the variance in the dependent variable (e.g. Parental Control). That is to say, the F statistic will be used to determine whether the observed variation in the sample means of each scale is greater than one would expect by chance.

The goal of ANOVA is to differentiate the total variance (sT) into that due to differences between the groups (sB) and that resulting from differences within the groups (sW). The between-groups variance is defined as 'explained variance' in that it is the portion of the total variance in the dependent variable (e.g. Parental Control) that is explained by the independent variable (Streaming). The with-in groups variance is referred to as 'unexplained' because it relates to variations in the dependent variable (Parental Control) which are due to influences other than the independent variable (Streaming).

The F-statistic refers to the ratio of the between-group variance to the within-group variance, hence the first steps entail calculating the total, the within-groups, and the between-groups sum of squares.

(1) The Total Groups Sum of Squares.

$$SS_T = \sum X_i^2 - \frac{(\sum X_i)^2}{N}$$

Where SS_T = the total sums of squares.

$\sum X_i^2$ = the sums of all the squared

raw scores

$\frac{(\Sigma X_t)^2}{N}$ = the sum of all the raw scores squared and then divided by the total no. of scores.

(2) The Within Groups Sum of Squares.

$SS_w = \Sigma X_t^2 - \left[\frac{(\Sigma X_K)}{n_k} \right]$ Where SS_w = the within-groups sums of squares.

ΣX_t^2 = the sums of all the squared raw scores.

$\left[\frac{(\Sigma X_k^2)}{n_K} \right]$ = the squared sums of scores for each sample (ΣX_k^2) divided by the number of members in each sample nk and the results for each sample summed.

(3) The Between Group Sum of Squares.

$(SS_B = SS_T - SS_W)$

$SS_B = \left[\frac{(\Sigma X_K)^2}{n_k} - \frac{(\Sigma X_t)^2}{N} \right]$

Once the sums of the squares have been determined, the estimated variances are obtained by dividing the sums of squares by the appropriate number of degrees of freedom. The

variances are

$s^2_B = \frac{SS}{k-1}$ Where K-1 = the number of groups minus 1 defined by the independent variable and used in calculating.

$s^2_w = \frac{SS_w}{N-k}$ Where N-k = the number of members in the three groups combined N, less 1 df for each group k.

The F ratio is;

$$F = \frac{s^2_B}{s^2_w}$$

Example: Analysis of a scale measuring Parental Control using the F-test.

$SS_B = 4.0458$

$s^2_B = \frac{SS}{k-1} = \frac{4.0458}{4-1} = 1.3486$

$SS_B = 37.1595$

$s^2_W = \frac{SSw}{N-k} = \frac{37.1595}{105-4} = .3680148$

$$F = \frac{s_B^2}{s_W^2} = \frac{1.3486}{.3680} = 3.3665$$

The significance of the F statistic is drawn from a table which provides the distribution of F values necessary to reject Ho at the 0.05 and 0.01 levels of significance. The degrees of freedom for the numerator and the denominator of the F ratio coincide with the boxhead and stub column of the table respectively. The corresponding significance for the above example is 2.70.

The decision rule is;
"If the observed F ratio is equal to, or larger, than the table value, reject the null hypothesis, Ho." (Kurtz, 1983).

In the case of the above example the observed F ratio is greater than the table value and so Ho is rejected. This implies that a portion of the total variance is not due to sampling variability or chance but due to the independent variable (e.g. the practice of streaming).

The Thirty Six Scales: ANOVA, Analysis and Findings.

A total of 11 of the 34 scales proved to be significant at he 0.05 level. However, an additional 5 scales approached significance and would have reached it if the sample were bigger. Such scales can be viewed as equally useful in terms of additional knowledge and explanation. All

scales are reported below. While there are five items used to measure each scale, only one defining item is included in the report below, for the sake of convenience.

Part A of the Inventory.

Approaches to Learning.

1. Deep **Approach - A56 I try to relate what I read to previous work.**

Our analysis of variance did not not show significance in the case of this scale (F ratio = 2.3579, p = 0.076).
The probability value indicates the scale is approaching Significance and if the sample had been bigger, significance would have been reached.
The mean scores indicate that the stream 3C is more agreeable to taking a deep approach to learning. They are followed by 3A and then 3B. The lowest stream 3D is least likely to adopt a deep approach to learning.

2. **Surface Approach - A3 I find I have to rely on memorizing a good deal of what we have to learn.**

Our analysis of variance did not show significance in the case of this scale (F ratio = 0.9290, p = 0.4298).
The mean score for each stream indicates that pupils in 3C were least likely to adopt a surface approach to learning. However, the top stream, 3A, tends to employ this approach.

3. Strategic Approach - A76 When I'm doing a piece of work, I try to see how to get the highest possible marks in it.

Our analysis of variance did not show significance in the case of this scale. (F ratio = 1.9879, p = 0.1207).

However, 3C's mean score indicates more of a preference to this approach to learning, than the other three streams. The second stream, 3B, show themselves to be least likely to adopt this approach.

Motivation.

4. Interest in Schoolwork - A32 I often feel excited when a a new topic is introduced.

Our analysis of variance did not show significance in the case of this scale (F ratio = 1.3236, p = 0.2709).

The mean score value indicates that 3A agrees most with this scale, followed closely by 3C. The surprising result of 3B being least supportive of this scale.

5. Responsibility and Conscientiousness - A33 I always put a lot of effort into what we're asked to do in school.

Our analysis of variance did not show significance in the case of this scale (F ratio = 1.0164, p = 0.3887).

The mean score indicates that 3C is most in agreement with

this scale, followed by 3A and 3D, but 3B showed the least support once again.

6. Affiliation - B54 Most of the pupils in this class are ready to help each other with their work.

Our analysis of variance did not show significance in the case of this scale (F ratio = 1.0490, p = 0.3746).
The mean score indicates that 3A is most in agreement with this scale. The stream 3C being least supportive of the scale, with a mean corresponding to uncertainty in the Likert scale.

8. Motivation.

The three scales above which represent the three domains of motivation, were aggregated to yield a mean score.
Our analysis of variance did not show significance in the case of this aggregate. (F ratio = 1.38, p = 0.2545).
The mean scores indicate that 3A are more motivated than the other three streams. The two streams 3C and 3D follow next, while 3B are least motivated according to the aggregate mean score of motivation.

Personality.

9. Extraversion - A10 When people ask me questions I am always ready with my reply.

Our analysis of variance did not show significance in the case of this scale. (F ratio = 0.2974, p = 0.8274).

The mean scores indicate that 3B are the most extraverted stream, with 3A being least extraverted.

10. Neuroticism - A47 I'm easily hurt if someone criticises me or my work.

Our analysis of variance did not show significance in the case of this scale. (F ratio = 1.1788, p = 0.3218).
The mean score indicates that 3D are the most neurotic class, followed by 3B and 3A, while 3C are uncertain.

11. Inferiority Feelings - A84 Most people are better liked than I am.

Our analysis of variance did not show significance in the case of this aggregate (F ratio = 1.3018, p = 0.2784).
The mean scores indicate that 3D identify most with this scale followed by 3B in agreement. Both 3A and 3C are uncertain.

Pupil Learning Styles and Strategies.

12. Skill in Learning - A19 I can usually pick out the important points in a lesson or in a book.

Our analysis of variance did show significance in the case of this scale (F ratio = 6.7131, p = 0.0004).
The mean scores indicate that 3C exhibit the most skill in learning. The bottom stream, 3D, exhibit the least skill in learning as measured by this scale. After 3C, 3A and 3B exhibit most skill in learning, in that order.

13. Disorganised Work Habits - A5 It's difficult for me to organise my study time.

Our analysis of variance did not show significance in the case of this scale (F ratio = 2.1215, p = 0.1022).

The mean scores indicate that 3D agree most about their disorganised work habits. They are followed by 3A and 3B, but 3C exhibit a mean score indicating uncertainty bordering on disagreement with the scale.

14. Study Skills - A24 I find it easy to find information in a book.

Our analysis of variance did not show significance in the case of this scale. However, it did approach significance and would have reached it if the sample were bigger (F ratio = 2.2920, p = 0.0827).

The mean scores indicate that 3C find it easier than the other three streams to study. The the lowest stream, 3D, find it hardest to study.

15. Holist Style - A7 In tackling a new topic or problem, I try to see each topic as a whole, before I start working on it.

Our analysis of variance did show significance in the case of this scale (F ratio = 4.6954, p = 0.004).

The mean score indicates that 3A are most likely to have a holist style, while 3D are least likely of the four streams to exhibit the same. See Table 4.1.

16. Serialist Style - A8 I prefer to tackle each part of a topic or problem in order, working through it one step at a time.

Our analysis of variance did not show significance in the case of this scale. However, it did approach significance and would have reached it if the sample were bigger (F ratio = 2.2032, p = 0.0923).

The mean scores indicated that 3C agreed most with this scale. While 3D exhibited the least serialist behaviour in learning styles.

Influence of Home and Peers.

17. Parental Support - A70 My parents are always helpful and encouraging about my school work.

Our analysis of variance did not show significance in the case of this scale (F ratio = 1.2952, p = 0.2802).

The mean scores indicates 3C enjoy most parental support, with 3B claiming least parental attention.

18. Parental Control - A71 My parents try to make sure I can do my homework without interruption.

Our analysis of variance did show significance in the case of this scale (F ratio = 3.6655, p =0.0148).

The mean score indicated that 3A and 3C agreed most with this scale while 3D admitted having least parental control in their lives.

19. Parents.

The two scales above were aggregated and our analysis of variance did show significance in the case of this aggregate (F ratio = 3.2811, p =0.0240).

The mean scores indicated that the stream 3C enjoyed the most parental input in terms of support and control. The bottom stream, 3D, enjoyed least parental attention.

20. Peer Group Pressure - A54 Its important to me to keep in with my pals even if it means fooling around.

Our analysis of variance did not show significance in the case of this scale (F ratio = 0.2522, p = 0.8596).

The mean scores indicated that 3D were most sensitive to peer pressure, followed by 3B and 3A, with 3C being least sensitive to this pressure.

Part B of the Inventory.

School Ethos.

1. School Irrelevance - B21 Most of what we learn here is unlikely to help us solve problems in real life.

Our analysis of variance did not show significance in the case of this scale. However, it did approach significance and would have reached it if the sample were bigger (F ratio = 2.3105, p = 0.0808).

The means score indicates that 3C are least supportive of this scale, while 3B are in most agreement with its content.

2. Social Climate - B18 A lot of my classmates are friends of mine.

Our analysis of variance did not show significance in the case of this scale (F ratio = 1.8181, p = 0.1489).

The mean scores indicate that 3B are in most agreement with this scale. The lowest stream, 3D, are in least agreement.

3. School Rules and Discipline - B2 The rules in this school are generally sensible and fair.

Our analysis of variance did not show significance in the case of this scale (F ratio = 1.2743, p = 0.2873).

The mean scores indicate that no stream agreed with this scale. The Streams 3B and 3D disagreed most, while 3A disagreed least.

4. Teacher Enthusiasm - B15 A lot of our teachers seem to enjoy working with us.

Our analysis of variance did not show significance in the case of this scale. However, it did approach significance and would have reached it if the sample were bigger (F ratio = 2.5856, p = 0.0574).

The mean scores indicate that 3A agree most with this scale, followed by 3D. The stream 3B disagree most, followed by 3C.

5. Teacher Support - B16 Teachers here generally try hard to help all the pupils.

Our analysis of variance did show significance in the case of this scale (F ratio = 2.8353, p = 0.0419).

The mean scores indicate that 3A agreed most, followed by 3D and 3C. The only stream to disagree was 3B.

6. Teacher control - B35 Most of the teachers here make sure we pay attention to what they are saying.

Our analysis of variance did show significance in the case of this scale (F ratio = 5.0832, p = 0.0026).

The mean scores indicate that 3A are in most agreement, followed by 3D and then 3C. The stream 3B are in least agreement.

7. Teacher Formality - A14 There are few opportunities for discussion in class.

Our analysis of variance did not show significance in the case of this scale (F ratio = 1.6658, p = 0.1791).

The mean scores indicate that all agree with this scale. The stream 3B agrees most followed by 3A and then 3C. The bottom stream 3D agrees least.

8. Teacher Criticism - B6 Our teachers seem more ready to see our mistakes than what we have done well.

Our analysis of variance did not show significance in the case of this scale (F ratio = 1.6973, p = 0.1724).
The mean scores indicate that 3C are in most agreement with this scale, followed by 3A and then 3B. The lowest stream 3D are in least agreement.

Teachers and Teaching.

9. Skill in Teaching: Relating - B78 Many of our teachers are good at asking us questions which make us think.

Our analysis of variance did show significance in the case of this scale (F ratio = 5.5679, p = 0.0014).
The mean scores indicate that 3D agrees most with this scale, followed by 3C and then 3A. The stream 3B disagrees with this scale.

10. Skill in Teaching: Simplifying - B28 The notes that most of our teachers give us are clear and useful.

Our analysis of variance did show significance in the case of this scale (F ratio = 3.26, p = 0.0245).
The mean scores indicate that 3A agree most, followed by 3D and then 3C. The stream 3B agreed least with this scale.

11. Skill in Teaching: Organising - B29 Most of our teachers

present their lessons in a well organised way.

Our analysis of variance did show significance in the case of this scale (F ratio = 6.2269, p = 0.0006).

The mean scores indicate that 3A and 3D agree most with this scale. The stream 3B is the only stream to disagree with this scale.

12. Skill in Teaching: Organise + Simplify.

Our analysis of variance did show significance in the case of this aggregate (F ratio = 5.7558, p = 0.0011).

The mean scores indicated that 3A and 3D agreed most concerning teachers ability to organise and simplify the learning material. The stream 3B agreed least, followed by 3C.

13. Study Skills Training - B8 Our teachers explain to us how to go about studying.

Our analysis of variance did not show significance in the case of this scale. However, it did approach significance and would have reached it if the sample were bigger (F ratio = 2.2920, p = 0.0827).

The mean scores indicate that 3C and 3A agree most with this scale, followed by 3B. The lowest stream 3D agrees least.

14. Holist Teaching Style - B12 Not enough teachers use lively examples or stories in their

lessons.

Our analysis of variance did not show significance in the case of this scale (F ratio = 2.0671, p = 0.1093).
The mean scores indicate that 3B agree most with this negative scale, followed by 3A and then 3C. The lowest stream, 3D, agrees least with the scale.

15. Serialist Teaching Style - B67 Teachers too often jump from one point to another preventing us follow what they're trying to say.

Our analysis of variance did not show significance in the case of this scale (F ratio = 1.9510, p = 0.1262).
The mean scores indicate that 3B agree most with this scale. The stream 3D agrees least followed by 3C and 3A.

Tasks and Task Requirements.

16. Factual Assessment - B41 Too many teachers ask us questions in class just about facts.

Our analysis of variance did not show significance in the case of this scale (F ratio = 0.4856, p = 0.6930).
The mean scores indicate 3B agree most with this scale. The lowest stream 3D agrees least, followed by 3C and 3A.

17. Freedom in Learning - B7 We get a good deal of choice in the in the work we have to do here.

Inventory: Part A. **Table 4.3.1**
Analysis of Variance.

Scales	'p'
Approaches to Learning.	
1. Deep Approach	.0763**
2. Surface Approach	.4298
3. Strategic Approach	.1207
Motivation.	
4. Interest in Schoolwork	.2709
5. Responsibility and Conscientiousness	.3887
6. Affiliation	.3746
7. Motivation	.2535
Personality.	
8. Extraversion	.8272
9. Neuroticism	.3218
10. Inferiority Feelings	.2784
Pupil Learning Styles and Strategies.	
11. Skill in Learning	.0004*
12. Disorganised Work Habits	.1022
13. Study Skills	.0827**
14. Holist Style	.0041*
15. Serialist Style	.0923**
Influence of Home and Peers.	
16. Parental Support	.2802
17. Parental Control	.0148*
18. Peer Group Pressure	.8596
19. Parents	.0240*

(Sig. at .05 level = *, Approaching Sig. at .05 level = **).

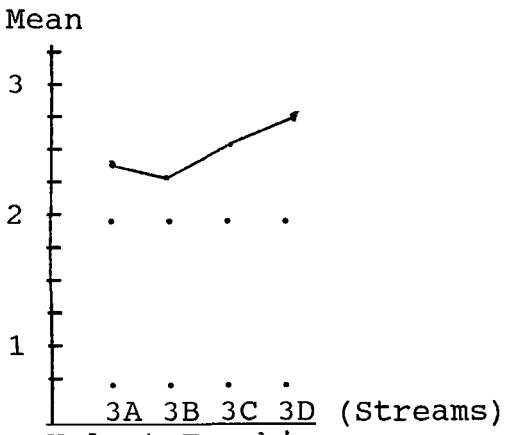
Inventory: Part B. **Table 4.3.2**
Analysis of Variance.

Scales	'p'
School Ethos.	
1. School Irrelevance	.0808**
2. Social Climate	.1489
3. School Rules and Discipline	.2873
4. Ethos	.2001
4. Teacher Enthusiasm	.0573**
5. Teacher Support	.0419*
6. Teacher control	.0026*
7. Teacher Formality	.1791
8. Teacher Criticism	.1724
Teachers and Teaching.	
9. Skill in Teaching - Relating	.0014*
10. Skill in Teaching - Simplifying	.0245*
11. Skill in Teaching - Organising	.0006*
12. Skill in Teaching (Organise+Simplify)	.0011*
12. Study Skills Training	.1121
13. Holist Teaching Style	.1093
14. Serialist Teaching Style	.1262
Tasks and Task Requirements.	
15. Factual Assessment	.6930
16. Freedom in Learning	.0312*
17. Workload	.5698

(Sig. at .05 level = *, Approaching Sig. at .05 level = **).

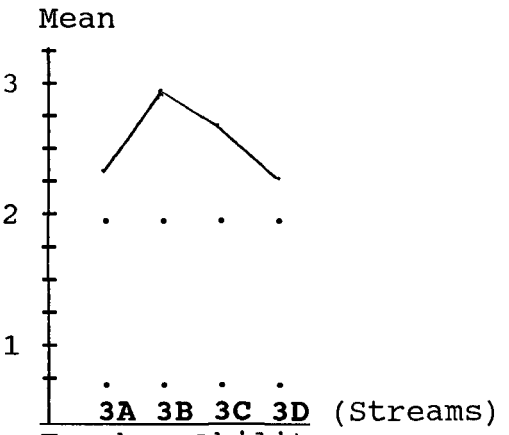
Mean Scores Of Scales By Streams
(F-Test, P<0.05)

Figure 4.3.1



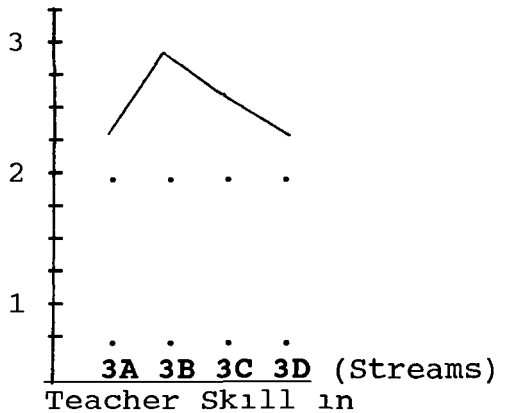
Holist Teaching Style.

Figure 4.4.2



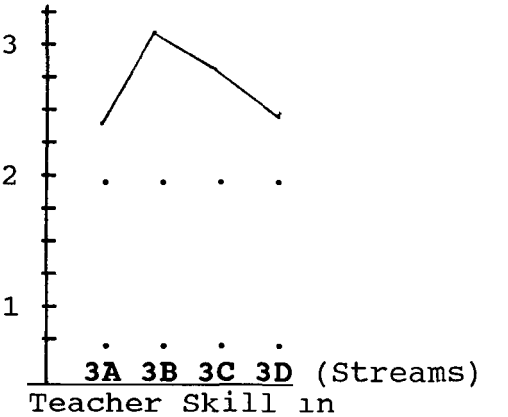
Teacher Ability (Organising + Simplifying)

Figure 4.3.3



Teacher Skill in Simplifying.

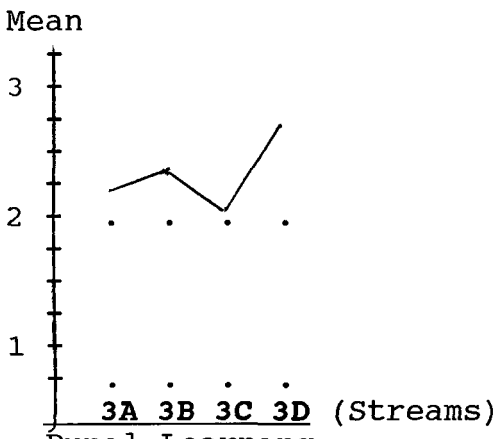
Figure 4.3.4



Teacher Skill in Organising.

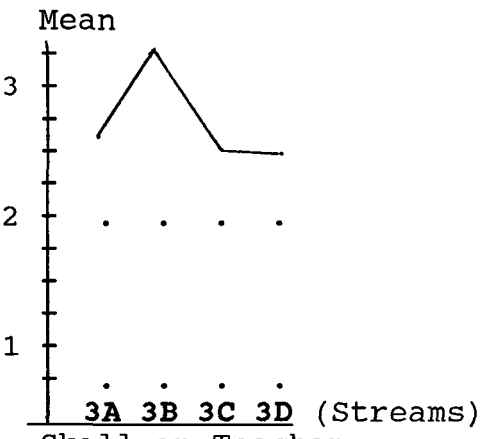
Mean Scores Of Scales By Streams
(F-Test, P<0.05)

Figure 4.3.5



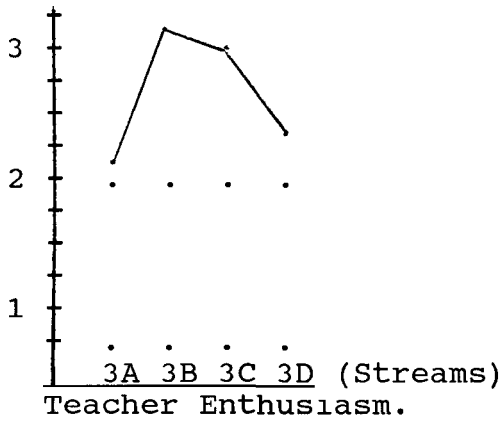
Pupil Learning Skill.

Figure 4.3.6



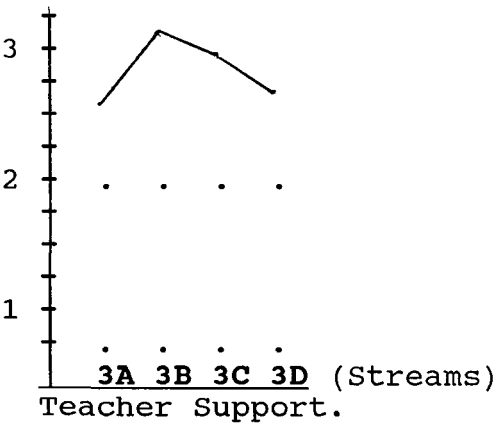
Skill in Teaching - Relating.

Figure 4.3.7



Teacher Enthusiasm.

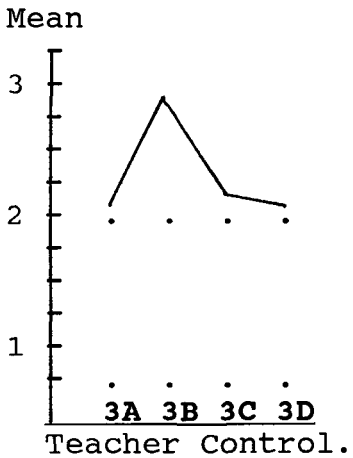
Figure 4.3.8



Teacher Support.

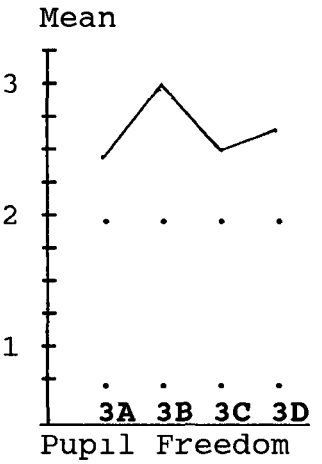
Mean Scores Of Scales By Streams
(F-Test, P<0.05)

Figure 4.3.9



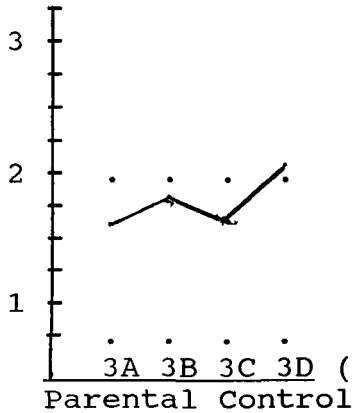
Teacher Control.

Figure 4.3.10



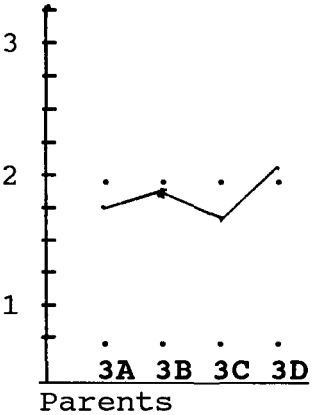
Pupil Freedom in Learning.

Figure 4.3.11



Parental Control.

Figure 4.3.12



Parents (Control + Support).

Mean Scores Of Scales By Streams
(F-Test, P<0.05)

Figure 4.3.13

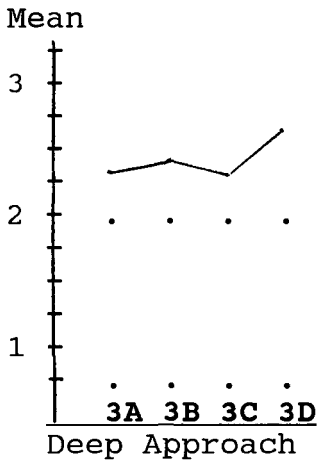


Figure 4.3.14

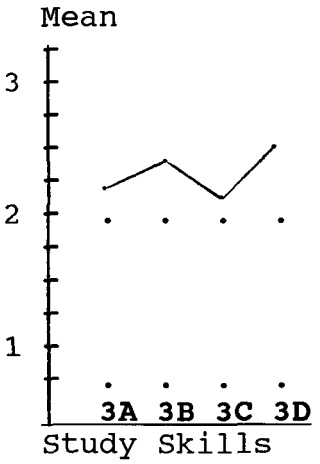


Figure 4.3.15

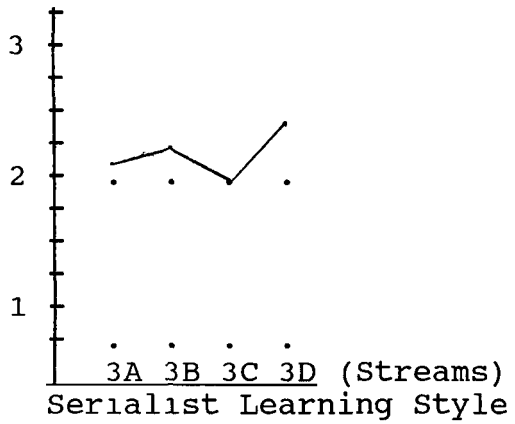
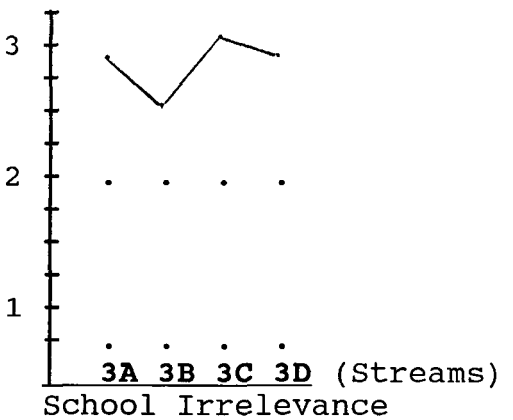


Figure 4.3.16



Our analysis of variance did show significance in the case of this scale (F ratio = 3.0717, p = 0.0312).
The mean scores indicate that 3A agree most with this scale, followed by 3C and then 3D. The stream 3B does not agree.

18. Workload - B4 We are given far too much work to do in this school.

Our analysis of variance did not show significance but did approach it, in the case of this scale (F ratio = 0.6742, p = 0.05698).
The mean scores indicates that 3B agree most with this scale, followed by 3A. The lowest stream 3D agree least with the scale, followed by 3C.

4.4 **Summary.**

The statistical model of one-way ANOVA was the method used to analyse variance. The significance level chosen was the 0.05 level. The purpose of the exercise was to see if differences in the mean scores of each group (stream) was due to random variations in sampling, or due to the practice of streaming (Independent Variable).

A brief description and derivation of the F statistic was outlined in order to clarify how this ratio is relevant to this investigation, and how it is used as an instrument for social research.

The two halves of the Inventory were analysed separately. All the scales were reported, even though only eleven scales proved to be significant (P<.05). Five other scales approached significance and would have reached it if the sample were bigger. These scales are outlined in Table 4.3.1 and 4.3.2. below.

The eleven scales which reached significance in the analysis of variance spanned six of the eight areas being measured by the inventory. A further five scales approached significance and would have reached it if the sample were bigger. These sixteen scales are listed in Table 4.3.3 below. The six areas containing the significant and the reasonably significant scales were; 1. Approaches to learning, 2. Pupil Learning Styles and Strategies, 3. Influence of Home and Peers, 4. School Ethos, 5. Teachers and Teaching, 6. Tasks and Task Requirements. The two areas of Motivation and Personality proved least successful in the F-test. See Tables 4.3.1 and 4.3.2.

The scales that were shown to be significant and the scales which approached significance in our analysis of variance are illustrated in Figures 4.3.1 to 4.3.12 in an attempt to outline some of the patterns emerging of inter-stream mean scores. These graphs illustrate at a glance the degree of agreement or disagreement a stream may have for a particular scale being measured. For example, see Figure 4.3.2 and how it

illustrates that the top and bottom streams are the most positive about their teachers ability to teach. While 3B in contrast, is the least confident in their teachers ability to teach, in terms of the teaching skills being measured.

4.5 **(2) Correlation Analysis.**

Pearson Product-Moment Correlation coefficients are calculated between scales measuring;

(i) Pupil Motivation and the scales measuring pupil perceptions of school and teachers.

(ii) Pupil Approaches to Learning and the scales measuring pupil perceptions of school and teachers.

The results are presented schematically below for the total sample and the four streams 3A, 3B, 3C and 3D.

(i) **Correlations Between Pupil Motivation And Perceptions Of Teachers And School.**

Due to the large amount of scales, and in an effort to make the results more manageable, it was decided to set up four bands to classify the differing strengths of correlation. The highest significant correlation is where r=.7117.

The correlation analysis for each stream is a four stage selection process. Firstly, each stream is analysed individually, and the scales which correlate significantly to each domain of motivation, are listed. Secondly, from this list, only those scales whose r-value is greater than +/-.3000 are described. Thirdly, the strongest correlates in each domain are selected, and presented as the most notable scales in that stream which are associated with motivation. These scales have an r-value greater than +/-.4000. Finally, this list of scales is further filtered through an r-value cut-off point of +/-.5000.

The Pearson Correlation Coefficient values for all scales are presented in Tables 4.5.1 to 4.5.9 below. These findings and their significance in relation to other research findings are discussed in Chapter Five.

The Total Sample.

Table 4.5.1 below shows the results of correlation analysis for the three motivation domains, Affiliation, Interest and Responsibility.

Affiliation correlates positively and significantly with ten scales. These scales are 1, 3-5, 9-12, and 16. The strongest correlation with Affiliation are the scales measuring, freedom in learning (r=.5023), teachers' skill in presenting their lessons in an organised way (r=.4435), the social climate of the school (r=.4055), and school discipline (r=.3801).

Interest correlates significantly with twelve scales, two of which are negative correlations. The positive correlations occur with scales 4-6, 8-11, 12 and 16. The negatively correlated scales are 2 and 3. The strongest correlation with Interest are the scales measuring, teachers' ability to teach

a pupil study skills (r=.5071), freedom in learning (r=.4541), teachers' control and inspection of pupil work rate (r=.4075), teachers' skill in presenting their lessons in an organised way (r=.3940). Interest correlates negatively but not strongly with two scales, School Discipline (r=.2820) and School Irrelevance (r=.2252).

Responsibility correlates with six scales positively and significantly but not strongly. These scales are 4, 9-12, and 16. The strongest correlation occurs between the scales describing teachers skill in presenting their lessons in an organised way (r=.3686), and freedom in learning (r=.3556).

The strongest correlation in the entire sample occurred between Interest and a teachers ability to teach study skills (r=.5071), and between Affiliation and freedom in learning (.5023).

Stream 3A.

Table 4.5.2 shows the results of correlation analysis for the three motivation domains, Affiliation, Interest, and

Total Sample. **Table 4.5.1.**

Pearson Product-Moment Correlation Coefficients between Motivation Domains and Pupil Perceptions of School and Teachers.

.	Affiliation (r)	(p)	Interest (r)	(p)	Responsib (r)	(p)
School Ethos						
1. Social Climate	**.4055**	**.000**	**.1997**	**.024**	.0565	.290
2. School Irrelev	-.1444	.078*	**-.2252**	**.012**	-.1829	.034
3. School Discipl	**.3801**	**.000**	**-.2820**	**.002**	.2508	.006*
4. Teacher Control	**.3551**	**.000**	**.4075**	**.000**	**.2574**	**.005**
5. Teacher Support	**.3660**	**.000**	**.3551**	**.000**	.2458	.007*
6. Teacher Enthus	**.2907**	**.002**	**.3474**	**.000**	.1044	.152
7. Teacher Formal	-.1340	.092*	.1235	.108	.0253	.400
8. Teacher Critic	.2000	.422	**.2125**	**.017**	.0954	.173
Teachers						
9. Skill in Rel	**.3131**	**.001**	**.3757**	**.000**	**.3020**	**.001**
10. Skill in Org	**.4435**	**.000**	**.3940**	**.000**	**.3686**	**.000**
11. Skill in Sim	**.2334**	**.010**	**.3261**	**.000**	**.3091**	**.001**
12. T Study Skills	**.2878**	**.002**	**.5071**	**.000**	**.2863**	**.002**
13. Teacher Holist	.0221	.414	.0532	.299	.0287	.388
14. Teacher Serial	.0070	.473	-.0076	.470	-.1388	.083*
Tasks and Task Requirements						
15 Factual Assess	.0817	.209	.1354	.087*	.0615	.270
16. Freedom in Le'n	**.5023**	**.000**	**.4541**	**.000**	**.3556**	**.000**
17. Work Load	-.0020	.492	.0618	.269	-.0603	.274

Note, '*' = A scale is approaching statistical significance.
Note, an underlined value implies statistical significance.

Responsibility.

Affiliation correlates significantly with nine scales. These scales are 1, 3-6, 9-11, and 16. The strongest correlation occurs with the scales measuring, teachers' skill in relating or making sense of material being learned (r=.6401), freedom in learning (r=.5553), teachers' control and inspection of pupils schoolwork (r=.4897), teachers' skill in presenting material in an organised way (r=.4584).

Interest correlates significantly with ten scales, one being a negative correlation. These scales are 1-3, 5 and 6, 9-12, and 16. The strongest correlation is with the scales measuring, teachers' help and support (r=.6055), teachers' enthusiasm in the classroom (r=.6006), teachers' ability to teach a pupil study skills (r=.5248), teachers' skill in relating or making sense of material being learned (r=.5239), teachers' skill in presenting their material in an organised way (r=.4941), teachers' skill in simplifying material to be learned (r=.4479), School Discipline (r=.4415), and freedom in learning (r=.4415). Interest correlates negatively with but not strongly with School Irrelevance(r= -.3789).

Responsibility correlates significantly with ten scales, one of which is a negative correlation. These scales are 1 and 2, 4 and 5, 9-12, 16 and 17. The strongest correlation is with the scales measuring, teachers' skill in presenting their

Stream 3A. **Table 4.5.2.**
Pearson Product-Moment Correlation Coefficients between Motivation Domains and Pupil Perceptions of School and Teachers.

.	Affiliation (r)	Affiliation (p)	Interest (r)	Interest (p)	Responsib (r)	Responsib (p)
1. Social Climate	**.3232**	**.047**	**.4619**	**.007**	**.3868**	**.021**
2. School Irrelev	-.2987	.139	**-.3789**	**.019**	**-.4775**	**.004**
3. School Discipl	**.3272**	**.045**	**.4415**	**.008**	.2840	.068*
4. Teacher Control	**.4897**	**.004**	.2563	.086*	**.3354**	**.035**
5. Teacher Support	**.3516**	**.033**	**.6055**	**.000**	**.4638**	**.006**
6. Teacher Enthus	**.3292**	**.041**	**.6006**	**.000**	.2683	.076*
7. Teacher Formal	-.2025	.146	-.1706	.184	-.2847	.064*
8. Teacher Critic	-.0991	.305	-.0975	.304	-.1185	.266
Teachers						
9. Skill in Rel	**.6401**	**.000**	**.5239**	**.001**	**.3306**	**.037**
10. Skill in Org	**.4584**	**.006**	**.4941**	**.003**	**.5319**	**.001**
11. Skill in Sim	**.3509**	**.031**	**.4479**	**.007**	**.4772**	**.004**
12. T Study Skills	.2598	.087*	**.5248**	**.001**	**.4773**	**.004**
13. Teacher Holist	.0164	.446	-.1097	.282	-.1633	.197
14. Teacher Serial	-.3024	.055*	-.1785	.173	-.2862	.063*
Tasks and Task Requirements						
15 Factual Assess	.0196	.460	.0727	.351	-.1033	.294
16. Freedom in L'g	**.5553**	**.001**	**.4157**	**.011**	**.3739**	**.021**
17. Work Load	-.2070	.141	.0019	.496	.0000	.500

Note, '*' = A scale is approaching statistical significance.
Note, an underlined value implies statistical significance.

material in an organised way (r=.5319), teachers' ability to teach a pupil study skills (r=.4773), teachers' skill in simplifying material to be learned (r=.4772), and teachers help and support (r=.4638). There is a negative correlation between Responsibility and School Irrelevance (r= -.4775).

The strongest correlations in the stream 3A are between Affiliation and teachers' skill in relating or making sense of material being learned (r=.6401), Interest and teachers' help and support (r=.6055), Interest and teachers' enthusiasm in the classroom (r=.6006), Affiliation and freedom in learning (r=.5553), Responsibility and teachers' skill in presenting their material in an organised way (r=.5319), Interest and teachers' ability to teach a pupil study skills (r=.5248), and Interest and teachers' skill in relating or making sense of material being learned (r=.5239), Responsibility and teachers' skill in presenting their material in an organised way (r=.4941), Responsibility and teachers' skill in simplifying material to be learned (r=.4479), Responsibility and school discipline (r=.4415), and Responsibility and freedom in learning (r=.4415). Interest correlates negatively with but not strongly with School Irrelevance (r= -.3789).

Stream 3B

Table 4.5.3 shows the results of correlation analysis for the three motivation domains, Affiliation, Interest, and Responsibility.

Affiliation correlates positively and significantly with seven scales. These scales are, 1, 3-6, 10 and 16. The strongest correlation with Affiliation are the scales measuring, the social climate of the school (r=.7033), teachers' enthusiasm in the classroom (r=.6070), teachers' skill in presenting their material in an organised way (r=.5843), freedom in learning (r=.5294), School Discipline (r=.4998), teachers' help and support (r=.4861), and teacher control and inspection of pupil work rate (r=.4763).

Interest correlates positively and significantly with ten scales. These scales are, 1, 4, 7 and 8, 10-12, and 14-16. The strongest correlation with Interest are the scales measuring, Factual Assessment (r=.5650), teachers' control and inspection of pupil work rate (r=.4616), teachers' skill in presenting their material in an organised way (r=.4240), and teachers' ability to teach a pupil study skills (r=.4048).

Responsibility correlates positively and significantly with six scales. These scales are, 3 and 4, 9-12, and 16. The highest correlation with affiliation involved the scales measuring, teachers' skill in simplifying material to be learned (r=.5760), teachers' skill in relating or making sense of material being learned (r=.4892), Freedom in learning (r=.4488), and School Discipline (r=.3843).

The strongest correlations in this stream, 3B, occurred

Stream 3B. **Table 4.5.3.**

Pearson Product-Moment Correlation Coefficients between Motivation Domains and Pupil Perceptions of School and Teachers.

.	Affiliation (r)	(p)	Interest (r)	(p)	Responsib (r)	(p)
School Ethos						
1. Social Climate	**.7033**	**.000**	**.3336**	**.041**	.0771	.348
2. School Irrele	-.1398	.239	.0431	.414	-.1978	.156
3. School Discipl	**.4998**	**.003**	.2731	.080*	**.3843**	**.022**
4. Teacher Control	**.4763**	**.005**	**.4616**	**.007**	**.3194**	**.049**
5. Teacher Support	**.4861**	**.004**	.1801	.180	.2303	.199
6. Teacher Enthus	**.6070**	**.000**	.1204	.275	.2673	.089*
7. Teacher Formal	-.1234	.266	**.3315**	**.042**	.1840	.174
8. Teacher Critic	.0394	.424	**.3736**	**.030**	.1865	.181
Teachers						
9. Skill in Rel	.3166	.054*	.1477	.231	**.4892**	**.005**
10. Skill in Org	**.5843**	**.001**	**.4240**	**.012**	**.3715**	**.026**
11. Skill in Sim	.2889	.072*	**.3889**	**.022**	**.5760**	**.001**
12. T Study Skills	.0822	.339	**.4048**	**.016**	.1283	.258
13. Teacher Holist	-.0180	.464	.1789	.181	.1331	.250
14. Teacher Serial	.1931	.167	**.3364**	**.043**	-.0259	.449
Tasks and Task Requirements						
15 Factual Assess	.1215	.263	**.5650**	**.001**	.1330	.250
16. Freedom in L'g	**.5294**	**.002**	**.3850**	**.022**	**.4488**	**.008**
17. Work Load	-.0263	.376	-.0456	.409	-.2749	.078*

Note, '*' = A scale is approaching statistical significance.
Note, an underlined value implies statistical significance.

between Affiliation and the school climate (r=.7033), Affiliation and teachers' enthusiasm in the classroom (.6070), Affiliation and teachers' skill in presenting their material in an organised way (r=.5843), Responsibility and teachers' skill in simplifying material to be learned (r=.5760), Interest and factual assessment (r=.5650), Affiliation and freedom in learning (r=.5294), Affiliation and teachers' help and support (r=.4861), and Affiliation and teachers' control and inspection of pupil work rate (r=.4763).

Stream 3C

Table 4.5.4 shows the results of correlation analysis for the three motivation domains, Affiliation, Interest, and Responsibility.

Affiliation correlates positively and significantly with five scales. These scales are 1, 12, 14, 16 and 17. The strongest correlations with Affiliation involve scales measuring, freedom in learning (r=.6090), the school social climate (r=.5392), teachers' ability to teach pupil study skills (r=.4683), and teachers' tendency to give too heavy a workload (r=.4453).

Interest correlates positively and significantly with ten scales. These scales are 1, 4, 7-10, 12 , 14, 16 and 17. The strongest correlation involved scales measuring, teachers'

Stream 3C. **Table 4.5.4**

Pearson Product-Moment Correlation Coefficients between Motivation Domains and Pupil Perceptions of School and Teachers.

.	Affiliation (r)	(p)	Interest (r)	(p)	Responsibil (r)	(p)
School Ethos						
1. Social Climate	**.5392**	**.005**	**.3942**	**.035**	-.0117	.479
2. School Irrelev	.0779	.365	-.1377	.271	.2207	.162
3. School Discipl	.1955	.192	.1559	.244	.0134	.476
4. Teacher Control	.1383	.270	**.3829**	**.039**	.0228	.460
5. Teacher Support	.1578	.242	.3355	.063*	.0920	.342
6. Teacher Enthus	.0652	.389	.2744	.114	-.2460	.141
7. Teacher Formal	.1684	.227	**.3936**	**.035**	**.4298**	**.023**
8. Teacher Critic	.1242	.291	**.4207**	**.026**	.1976	.189
Teachers						
9. Skill in Rel	.1181	.300	**.3911**	**.036**	-.0714	.376
10. Skill in Org	.3030	.091*	**.4127**	**.031**	.2908	.101
11. Skill in Sim	.1954	.198	.1773	.221	-.0796	.366
12. T Study Skills	**.4683**	**.014**	**.5417**	**.005**	.3123	.079
13. Teacher Holist	.1552	.245	.2821	.102	**.4060**	**.030**
14. Teacher Serial	**.3718**	**.044**	**.3782**	**.041**	.2575	.124
Tasks and Task Requirements						
15 Factual Assess	.0562	.402	.0268	.453	.2348	.146
16. Freedom in L'g	**.6090**	**.001**	**.5631**	**.003**	.2666	.115
17. Work Load	**.4453**	**.019**	**.7117**	**.000**	**.3694**	**.045**

Note, '*' = A scale is approaching statistical significance.
Note, an underlined value implies statistical significance.

tendency to give too heavy a workload (r=.7117), freedom in learning (r=.5631), teachers' ability to teach pupil study skills (r=.5417), teachers' tendency to be overly critical (r=.4207), and teachers' skill in presenting their material in an organised way (r=.4127).

Responsibility correlates positively and significantly with three scales. These scales are 7, 13 and 17. The strongest correlation involves teachers being too formal and not encouraging discussion (r=.4298), teachers' being too holist in teaching style e.g. using too many facts and not enough lively discussion (r=.4060), and teachers' tendency to give too heavy a workload (r=.3694).The strongest correlation occurs in the stream 3C between the following domains and scales, Interest and teachers' tendency to give too heavy a workload (r=.7117), Affiliation and freedom in learning (r=.6090), Interest and freedom in learning (r=.5631), Interest and teachers' ability to teach pupil study skills (r=.5417), and Affiliation and the schools social climate (r=.5392).

Stream 3D.

Table 4.5.5 shows the results of correlation analysis for the three motivation domains, Affiliation, Interest, and Responsibility.Affiliation correlates significantly with five scales, two being negative correlations. These scales are 2,3,7,10 and 12.

The strongest correlation involves scales measuring, pupils' perception of school being irrelevant (r= -.4979), teachers' being too formal and not encouraging discussion (r= -.4718), teachers skill in presenting their material in an organised way (r=.3922).

Interest correlates significantly with five scales, two of which are negative correlations. These scales are 1, 2 ,4, 9 and 12. The strongest correlation involves scales measuring, teachers ability to teach pupil study skills (r=.5123), pupils' perception of school being irrelevant (r=.4302), and teachers' control inspection of pupil work rate (r=.4073).

Responsibility correlates significantly but not strongly with only scale no. 10, measuring teachers' skill in presenting their material in an organised way (r=.3680).

The highest correlation in this, the bottom stream 3D, occurs between the following domains and scales, Interest and teachers' ability to teach study skills (r=.5123), Affiliation and pupils' perception of school being irrelevant (r= -.4979), Affiliation and teachers' being too formal and not encouraging discussion (r= -.4718), Interest and pupil perception of school being irrelevant (r=.4302), and Interest and teachers' control and inspection of pupils schoolwork (r=.4073).

Stream 3D. **Table 4.5.5**

Pearson Product-Moment Correlation Coefficients between Motivation Domains and Pupil Perceptions of School and Teachers.

.	Affiliation (r)	(p)	Interest (r)	(p)	Responsibıl (r)	(p)
School Ethos						
1. Socıal Climate	-.0220	.464	**-.3858**	**.046**	-.1500	.264
2. School Irrelev	**-.4979**	**.015**	**-.4302**	**.029**	-.2912	.106
3. School Dıscıpl	**.3957**	**.038**	.1049	.321	.2147	.169
4. Teacher Control	.3212	.090	**.4073**	**.037**	.3523	.064*
5. Teacher Support	.3398	.066*	.2746	.108	.2306	.151
6. Teacher Enthus	-.0549	.409	.2781	.111	.0971	.338
7. Teacher Formal	**-.4718**	**.015**	-.1176	.301	-.3139	.077*
8. Teacher Crıtic	-.0462	.421	.0258	.455	.0470	.418
Teachers						
9. Skıll ın Rel	.2410	.153	**.3908**	**.040**	.3038	.090*
10. Skill in Org	**.3922**	**.039**	.1221	.294	**.3680**	**.046**
11. Skıll ın Sım	-.0334	.443	.1345	.274	.1641	.233
12. T Study Skills	**.3398**	**.006**	**.5132**	**.007**	.2607	.121
13. Teacher Holist	-.1120	.319	-.2604	.127	-.2878	.103
14. Teacher Serıal	-.0515	.412	-.3101	.080*	-.3238	.071*
Tasks and Task Requirements						
15 Factual Assess	.1362	.278	-.1483	.255	-.0145	.474
16. Freedom in L'g	.3201	.079*	.3151	.082*	.2193	.170
17. Work Load	-.1718	.228	-.3302	.067*	-.1727	.221

Note, '*' = A scale is approachıng statıstıcal sıgnıfıcance.
Note, an underlined value implies statistical significance.

Highest Correlates between Motivation and Perceptions of School and Teachers.

Stream 3A

(1) Affiliation teachers' skill in relating or making sense of material being learned (r=.6401), (2) Interest and teachers' help and support (r=.6055), (3) Interest and teachers' enthusiasm in the classroom (r=.6006), (4) Affiliation and freedom in learning (r=.5553), (5) Responsibility and teachers' skill in presenting their material in an organised way (r=.5319), (6) Interest and teachers' ability to teach a pupil study skills (r=.5248), (7) Interest and teachers' skill in relating or making sense of material being learned (r=.5239). See Table 4.5.2.

Stream 3B

(1) Affiliation and the school climate (r=.7033), Affiliation and teachers' enthusiasm in the classroom (.6070), (2) Affiliation and teachers' skill in presenting their material in an organised way (r=.5843), (3) Responsibility and

teachers' skill in simplifying material to be learned (r=.5760), (4) Interest and factual assessment (r=.5650), (5) Affiliation and freedom in learning (r=.5294). See Table 4.5.3.

Stream 3C

(1) Interest and teachers' tendency to give too heavy a workload (r=.7117), (2) Affiliation and freedom in learning (r=.6090), (3) Interest and freedom in learning (r=.5631), (4) Interest and teachers' ability to teach pupil study skills (r=.5417), and (5) Affiliation and the schools social climate r=.5392). See Table 4.5.4.

Stream 3D

(1) Interest and teachers' ability to teach study skills (r=.5123). See Table 4.5.5.

(ii) **Correlations Between Pupil Approaches to Learning and Perceptions of Teachers and School.**

The same procedure of analysis as was undertaken above with pupil motivation, is adopted in the case of approaches to learning, below. There are four bands of selection, less than +/-.3000, greater than or equal to +/-.3000, greater than or equal to +/-.4000, and finally, greater than or equal to +/-.5000.

The Pearson Correlation Coefficient values for all scales are presented in Tables 4.5.6 to 4.5.9 below. These findings and their significance, in relation to other research findings, are discussed in Chapter Five.

Total Sample.

The Deep Approach to learning is correlated positively and significantly with five scales. These scales are 1, 4, 9, 15 and 16. The strongest correlation with the Deep approach occurs with the scales measuring, teachers over-use of factual assessment (r=.5564), teachers' control and inspection of pupils' schoolwork (r=.5494), teachers' skill in relating or making sense of material being learned (r=.4312), the social climate of the school (r=.4094), and pupil freedom in learning (.3722).

The Surface Approach to learning is correlated with five scales, two of which are negative. These scales are 3, 5, 8, 13 and 17. The strongest correlation with the Surface approach occurs with the scales measuring, teachers' tendency to be overly critical (r=.5280), Teachers' being too holist in teaching style i.e. using too many facts and not enough lively discussion (r=.4759), school discipline (r= -.4282), teachers' help and support (r=-.3444), and teachers' tendency to give too heavy a workload (r=.3440).

The Strategic Approach to learning is correlated to six scales. These scales are 1, 4, 7, 11, 15 and 16. The strongest

Total Sample. **Table 4.5.11**

Pearson Product-Moment Correlation Coefficients between Approaches to Learning and Pupil Perceptions of School and Teachers.

.	Deep (r)	(p)	Surface (r)	(p)	Strategic (r)	(p)
School Ethos						
1. Social Climate	**.4094**	**.017**	-.0571	.389	**.3728**	**.028**
2. School Irrelev	-.1096	.293	.1176	.280	-.1711	.197
3. School Discipl	.2688	.088*	**-.4282**	**.013**	.2663	.090*
4. Teacher Control	**.5494**	**.001**	.0550	.393	**.3846**	**.024**
5. Teacher Support	.1623	.209	**-.3444**	**.039**	.2850	.075*
6. Teacher Enthus	.2443	.115	-.3141	.059*	.3070	.064*
7. Teacher Formal	.1549	.220	.3890	.022*	**.4169**	**.015**
8. Teacher Critic	.2653	.095*	**.5280**	**.003**	.2294	.103
Teachers						
9. Skill in Rel	**.4312**	**.014**	-.0576	.390	.2884	.077*
10. Skill in Org	.0841	.338	-.0368	.368	.1269	.264
11. Skill in Sim	.3273	.051*	-.1676	.207	**.5776**	**.001**
12. Ability to Tch Study Skills	.0445	.413	-.0375	.426	.0763	.353
13. Teacher Holist	.0330	.435	**.4759**	**.006**	.0888	.330
14. Teacher Serial	.0869	.337	.1656	.209	.2789	.084*
Tasks and Task Requirements						
15 Factual Assess	**.5564**	**.001**	.2506	.104	**.4382**	**.011**
16. Freedom in L'g	**.3722**	**.028**	-.1204	.275	**.4034**	**.018**
17. Work Load	.0672	.370	**.3440**	**.039**	.0529	.397

Note, '*' = A scale is approaching statistical significance.
Note, an underlined value implies statistical significance.

correlation occurred with the scales measuring, teachers' skill in simplifying material to be learned (r=.5776), factual assessment (r=.4382), teachers' being too formal and not encouraging discussion (r=.4169), freedom in learning (r=.4034), teachers' control and inspection of schoolwork (r=.3846), and the social climate of the school (r=.3728).

The strongest correlation which occurs in the total sample is between, the Strategic Approach and teachers' skill in simplifying the material to be learned (r=.5576) , the Deep Approach and factual assessment (r=.5584), the Deep Approach and teachers' control and inspection of schoolwork (r=.5494), the Surface Approach and teachers' tendency to be overly critical (r=.5280), the Strategic Approach and teachers being too holist in teaching style (r=.4759), factual assessment (r=.4382), teachers' skill in relating or making sense of material being learned (r=.4312), school discipline (r= -.4282), teachers' being too formal and not encouraging enough discussion (r=.4169), and freedom in learning (r=.4034).

Stream 3A.

The Deep Approach to learning is correlated positively and significantly to only three scales, 5, 9 and 10. These scales are teachers' skill in presenting their material in an organised and skilful way (r=.4717), teachers' skill in relating and making sense of material to be learned (r=.3404),

Stream 3A. **Table 4.5.6.**
Pearson Product-Moment Correlation Coefficients between Approaches to Learning and Pupil Perceptions of School and Teachers.

.	Deep (r)	(p)	Surface (r)	(p)	Strategic (r)	(p)
School Ethos						
1. Social Climate	.0957	.314	-.1108	.291	**.3459**	**.036**
2. School Irrelev	.0011	.498	**.3146**	**.048**	**-.4726**	**.004**
3. School Discipl	.2514	.094*	-.1341	.248	.2133	.133
4. Teacher Control	.0205	.457	.1153	.276	.1072	.286
5. Teacher Support	**.3221**	**.044**	-.1400	.239	**.3869**	**.019**
6. Teacher Enthus	.1981	.147	-.0053	.489	.1438	.224
7. Teacher Formal	.2518	.090*	**.3181**	**.046**	-.2312	.110
8. Teacher Critic	.2309	.110	.2951	.060*	-.2001	.144
Teachers						
9. Skill in Rel	**.3404**	**.003**	-.1498	.219	.1024	.295
10. Skill in Org	**.4717**	**.004**	-.0415	.415	**.2722**	**.073**
11. Skill in Sim	.2849	.064*	-.0205	.458	.1357	.237
12. T Study Skills	.2609	.082*	**-.3130**	**.049**	.1492	.216
13. Teacher Holist	-.0314	.427	.1164	.274	-.2083	.135
14. Teacher Serial	-.0052	.489	-.0573	.384	-.1331	.242
Tasks and Task Requirements						
15 Factual Assess	.2285	.112	.0687	.362	-.0908	.317
16. Freedom in L'g	.1551	.205	-.1043	.259	.1377	.234
17. Work Load	.0413	.414	.0311	.436	.0112	.477

Note, '*' = A scale is approaching statistical significance.
Note, an underlined value implies statistical significance.

and teachers' help and support (r=.3221).

The Surface Approach correlates significantly to three scales. Two of these are positive correlations, 2 and 7, while scale no. 12 is a negative correlate. All three scales are close to the cut-off point of selection i.e. r=+/- .3000), and measure teachers' being too formal and not encouraging discussion (r=.3181), pupils' belief that school is irrelevant (r=.3869), and teachers' ability to teach a pupil study skills (r= -.3130).

The Strategic Approach to learning correlates significantly with four scales, one being a negative correlation. These four scales are, 1, 2, 5 and 6. The highest correlation shows a negative relation between this approach to learning and a pupils's belief that school is irrelevant (r= -.4726). The other two scales are those measuring teacher help and support (=.3868), and the schools social climate (r=.3549).

The highest correlation coefficients in this stream, 3A involve only two scales where r > +/-.4000. The strongest correlation occurs between the Strategic Approach and pupils' perception of school being irrelevant (r= -.4726). There is also a correlation between the Deep Approach and teachers' skill in presenting their material in an organised way (r= .4717).

Stream 3B.

The Deep Approach to learning correlates positively and significantly to five scales. These scales are 1, 4, 9, 15 and 16. The strongest correlations involve the scales measuring, factual assessment (r=.5564), teachers' control and inspection of pupil schoolwork (r=.5494), teachers' skill in relating or making sense of material being learned (r=.4313), the social climate of the school (r=.4094), and freedom in learning (r=.3722).

The Surface Approach has three scales significantly correlated, two of which are negative but weak correlation. The strongest correlations involves scales measuring pupil perceptions of school discipline (r= -.4282), teacher help and support (r= -.3440), and teachers' tendency to give too heavy a workload (r=.3440).

The Strategic Approach has six scales significantly and positively related. These scales are 1, 4, 7, 11, 15 and 16. The strongest correlations are with the scales measuring, teachers' skill in simplifying material to be learned (r=.5776), factual assessment (r=.4382), teachers' being too formal and not encouraging discussion (r=.4169), freedom in learning (r=.4034), teachers' control and inspection of pupil schoolwork (r=.3846), and the social climate of the school (r=.3728).

Stream 3B. **Table 4.5.7.**

Pearson Product-Moment Correlation Coefficients between Approaches to Learning and Pupil Perceptions of School and Teachers.

.	Deep (r)	(p)	Surface (r)	(p)	Strategic (r)	(p)
School Ethos						
1. Social Climate	**.4094**	**.017**	-.0571	.389	**.3728**	**.028**
2. School Irrelev	-.1096	.293	.1176	.280	-.1711	.197
3. School Discipl	.2688	.088*	**-.4282**	**.013**	.2663	.090*
4. Teacher Control	**.5494**	**.001**	.0550	.393	**.3846**	**.024**
5. Teacher Support	.1623	.209	**-.3444**	**.039**	.2850	.075*
6. Teacher Enthuse	.2443	.115	-.3141	.059*	.3070	.064*
7. Teacher Formal	.1549	.220	.3890	.022*	**.4169**	**.015**
8. Teacher Critic	.2653	.095	.5280	.003	.2294	.130
Teachers						
9. Skill in Rel	**.4312**	**.014**	-.0576	.390	.2884	.077*
10. Skill in Org	.0841	.338	-.0680	.368	.1269	.264
11. Skill in Sim	.3273	.051*	-.1676	.207	**.5776**	**.001**
12. T Study Skills	.0445	.413	-.0375	.426	.0763	.353
13. Teacher Holist	.0330	.435	.4759	.006*	.0888	.330
14. Teacher Serial	.0869	.337	.1656	.209	.2789	.084*
Tasks and Task Requirements						
15 Factual Assess	**.5564**	**.001**	.2506	.104	**.4382**	**.011**
16. Freedom in L'g	**.3722**	**.028**	-.1204	.275	**.4034**	**.018**
17. Work Load	.0672	.370	**.3440**	**.039**	.0259	.397

Note, '*' = A scale is approaching statistical significance.
Note, an underlined value implies statistical significance.

The strongest correlations in this stream, 3B, involve the scales measuring, the Strategic Approach and teachers' skill in simplifying material to be learned (r=.5776), the Deep Approach and factual assessment (r=.5564), the Deep Approach and teachers' control and inspection of pupil schoolwork (r=.5494), the Strategic Approach and factual assessment (r=.4382), the Strategic Approach and teachers' skill in relating or making sense of material being learned (r=.4312), the Surface Approach and school discipline (r= -.4282), the Strategic Approach and teachers' being too formal and not encouraging discussion (r=.4169), the Deep Approach and the social climate of the school (r=.4094), the Strategic Approach and freedom in learning (r=.4034).

Stream 3C

The Deep Approach has just one significantly correlated scale. This scale measures teachers' ability to teach a pupil study skills (r=.5434).

The Surface Approach has three significantly correlated scales. These scales are 1, 13 and 14. These scales, listed in descending r-value, measure the school social climate (r=.6271), teachers' being too serialist in their teaching style e.g. use too many examples and wander off the point (r=.6113), and teachers' being too holist in their teaching style i.e. using too many facts and not enough lively discussion (r=.3810).

Stream 3C. **Table 4.5.8**

Pearson Product-Moment Correlation Coefficients between Approaches to Learning and Pupil Perceptions of School and Teachers.

.	Deep (r)	(p)	Surface (r)	(p)	Strategic (r)	(p)
School Ethos						
1. Social Climate	.2009	.185	**.6271**	**.002**	.3303	.072*
2. School Irrelev	.0403	.429	.0502	.417	.0193	.467
3. School Discipl	-.0036	.494	.1582	.235	.0851	.357
4. Teacher Control	.0825	.358	.3517	.064*	.0314	.446
5. Teacher Support	.2363	.145	.1709	.236	.2900	.101
6. Teacher Enthus	-.0905	.348	.0639	.397	.0729	.380
7. Teacher Formal	.1982	.188	.1892	.212	.2926	.099*
8. Teacher Critic	.0718	.375	.1662	.242	.3290	.073*
Teachers						
9. Skill in Rel	.0890	.347	-.1130	.318	.2273	.161
10. Skill in Org	.0327	.444	.0686	.390	**.3795**	**.049**
11. Skill in Sim	.0900	.349	-.0919	.354	.1884	.207
12. T Study Skills	**.5434**	**.004**	.2109	.186	**.5749**	**.003**
13. Teacher Holist	.0762	.368	**.3810**	**.049**	.0488	.424
14. Teacher Serial	-.0953	.337	**.6113**	**.002**	.2476	.140
Tasks and Task Requirements						
15 Factual Assess	.0758	.369	.1694	.238	.0294	.450
16. Freedom in L'g	.2117	.172	.1869	.215	**.4668**	**.016**
17. Work Load	.1181	.300	.1646	.244	**.4614**	**.018**

Note, '*' = A scale is approaching statistical significance.
Note, an underlined value implies statistical significance.

The Strategic Approach has four significantly correlated scales. These are scales 10, 12, 16 and 17. These scales measure, in descending r-value, teachers' ability to teach a pupil study skills (r=.5749), freedom in learning (r=.4668), teachers' tendency to give too heavy a workload (r=.4614), and teachers' skill in presenting their material in an organised way (r=.3795).

The strongest correlations in this stream, 3C, involve scales measuring the Surface Approach and the social climate of the school (r=.6271), the Surface Approach and teachers' being too serialist in their teaching style (r=.6113), the Strategic Approach and teachers' ability to teach a pupil study skills (r=.5749), the Deep Approach and teachers ability to teach a pupil study skills (r=.5434), the Strategic Approach and freedom in learning (r=.4668), and the Strategic Approach and teachers' tendency to give too heavy a workload (r=.4614).

Stream 3D

The Deep Approach has four significantly correlated scales, one of which is a negative correlation. These scales are 5, 12, 13, and 16. These scales measure, in descending r-value, teachers' being too holist in their teaching style (r= -.4588), teachers' help and support (r=.4211), and freedom in learning (r=.4123).

The Surface Approach has two significant correlated scales.

Stream 3D. **Table 4.5.9**

Pearson Product-Moment Correlation Coefficients between Approaches to Learning and Pupil Perceptions of School and Teachers.

.	Deep (r)	(p)	Surface (r)	(p)	Strategic (r)	(p)
School Ethos						
1. Social Climate	-.0723	.384	.1673	.240	-.1351	.285
2. School Irrelev	-.3207	.090*	.2233	.172	**-.3804**	**.049**
3. School Discipl	.3668	.051*	-.2440	.137	.2356	.146
4. Teacher Control	.1354	.294	.5476	.006*	.3313	.077*
5. Teacher Support	**.4211**	**.029**	-.2126	.171	.2745	.108
6. Teacher Enthus	.3050	.095*	.1050	.325	.1850	.211
7. Teacher Formal	-.1672	.234	.3450	.058*	-.2373	.144
8. Teacher Critic	-.0723	.384	.1673	.240	-.1351	.285
Teachers						
9. Skill in Rel	.2908	.107	.3429	.064*	.3458	.062*
10. Skill in Org	.2007	.192	-.1634	.234	.1431	.263
11. Skill in Sim	.2065	.185	-.0748	.370	-.0745	.371
12. T Study Skills	**.0661**	**.002**	-.1167	.302	**-.3794**	**.041**
13. Teacher Holist	**-.4558**	**.022**	**.4211**	**.029**	**-.5957**	**.002**
14. Teacher Serial	-.2778	.111	.2876	.097*	**-.4483**	**.018**
Tasks and Task Requirements						
15 Factual Assess	-.2063	.185	**.4552**	**.017**	-.1801	.211
16. Freedom in L'g	**.4123**	**.035**	-.1157	.309	.1591	.245
17. Work Load	-.2147	.175	.2354	.146	**-.3761**	**.042**

Note, '*' = A scale is approaching statistical significance.
Note, an underlined value implies statistical significance.

These are scales 13 and 15. They measure, factual assessment (r=.4552), and teachers' being too holist in their teaching style (r=.4211).

The Strategic Approach has five significant and negatively correlated scales. These are scales 2, 12-14, and 17. These scales measure, teachers' being too holist in their teaching style (r= -.5975), teachers' being too serialist in their teaching style (r= -.4483), pupils' perception of school being irrelevan4t (r= -.3804), teachers' ability to teach a pupil study skills (r= -.3794), and teachers' tendency to give too heavy a workload (r= -.3761).

The strongest correlations in this stream, 3D, involve scales measuring the Strategic Approach and teachers' being too holist in their teaching style (r= -.5957), the Deep Approach and teachers being too holist in their teaching style (r= -.4558), the Surface Approach and factual assessment (r=.4552), the Strategic Approach and teachers' being too serialist in their teaching style (r= -.4483), the Surface Approach and teachers' being too holist in their teaching style (r=.4211), and the Deep Approach and teachers' help and support (r=.4211).

4.6 **Conclusion and Summary**.

This chapter describes the inventory in detail at both item

and scale level, followed by a description of the population being studied, and the sampling and administrative procedures.

Statistical tests of analysis of variance and correlation are reported for all scales, the results of each test being presented individually.

The analysis of variance (ANOVA) yields eleven scales reaching statistical significance at the .05 level, while a further five approach significance and would have reached significance had the sample been bigger. Using these results a profile of the four streams is constructed.

The correlation analysis is undertaken to establish what associations are present between pupils' perceptions of teachers and schools, and the two areas of school motivation and approaches to learning.

Firstly, the study of the association between pupil perceptions of school/teachers and school motivation is analysed for each stream under the headings of Kozeki's proposed "three domains of motivation". Since these associations prove quite strong and large in number, scales with the highest correlation coefficient are further selected. This is done in an effort to pick out the most important associations to school motivation. However, all scales are reported in Tables 4.5.1 to 4.5.5.

Secondly, the study of the association of between pupils' perceptions of school/teachers and the three approaches to learning, e.g. deep, surface and strategic is analysed for each stream. Again, scales with the highest correlation are picked out to see which approaches to learning are most associated with which aspects of the educational environment as perceived by these pupils. However, all scales are reported in Tables 4.5.6 to 4.5.9.

Chapter Five will collate further and refine the above results, while also attempting to relate the above findings with current research on the topic. And finally, it offers a discussion of the main findings, recommendations for future studies, and overall conclusions to the study.

CHAPTER 5

MAIN FINDINGS,

CONCLUSIONS AND RECOMMENDATIONS

CHAPTER FIVE

5.1 **Introduction:** This chapter attempts to collate and discuss the data which was reported in Chapter Four, and relate it to the literature reviewed in Chapter Two. The chapter concludes with a summary, discussion and suggested areas for further study.

Since the method of analysis involves the two statistical tests of (1) Analysis of Variance, (2) Correlation Analysis, and since a wide range of scales are contained in the inventory, the initial procedure will be to treat the results of each test according to each of the four streams.

However, since the results of the analysis of variance more directly address the findings of current research on streaming, our results, in relation to this current research is discussed immediately after the Analysis of Variance section.

Analysis and discussion of the correlation analyses concerning pupil perception and how they are associated with school motivation and different approaches to learning, are then treated. The results and findings of the two tests are then aggregated to yield a profile of the four streams being analysed.

As a reminder, the main purpose of this study is to establish whether the ability grouping technique of streaming has a discriminating effect on the main characteristics of participating pupils. To do this, an inventory was chosen which measured the widest possible range of pupil perceptions concerning their educational experiences. The general line of reasoning being, that if the type and strength of pupil response tends to differ along the lines of stream demarcation, then streaming has a decided input and effect on pupils educational experience, in terms of perceptions of themselves and their educational environment.

The results of this study tend to support the notion of a pronounced demarcation. Each of the four streams showed itself to be unique in character, in terms of perceptions of self, school and teachers. This was also the case concerning their approaches to learning, motivation levels of each stream, and in the case of possible sources of school motivational.

5.2 **A Brief Analysis of Streams using Results from F test.**

The scales which reached or approached significance at the 0.05 level in our analysis of variance are reported in table 5.2.3 below.

(1) **Stream 3A.** This stream appears to be the most positive about the teachers and their skill in teaching. In comparison

Part A and Part B of the Inventory — Table 5.2.3

Analysis of Variance: Statistically Significant Scales

Domain	Scales		'p'
1. Approaches To Learning	(i)	Deep Approach	.0763**
2. Pupil Styles and Strategies	(i)	Skill in Learning	.0004*
	(ii)	Study Skills	.0827**
	(iii)	Holist Style	.0041*
	(iv)	Serialist Style	.0923**
3. Influences of Home and Peers	(i)	Parental Control	.0418*
	(ii)	Sup+Control (Aggregate)	.0240*
4. School Ethos	(i)	Teacher Enthusiasm	.0573**
	(ii)	Teacher Support	.0419*
	(iii)	Teacher Control	.0026*
	(iv)	School Irrelevance	.0808**
5. Teachers and Teaching	(i)	Skill in Relating	.0014*
	(ii)	Skill in Simplifying	.0245*
	(iii)	Skill in Organising	.0006*
	(iv)	Simp+Org (Aggregate)	.0011*
6. Tasks and Task Requirements	(i)	Freedom in Learning	.0312*

(Sig. at .05 level = *, Approaching Sig. at .05 level = **).

to the other three streams, it shows the most support for scales that described the teachers as supportive and enthusiastic. It also shows the most agreement with scales which described teachers as being good at organising and simplifying their learning material.

However, they appear to be less confident about their skills in studying effectively than are 3C, 3A reporting themselves to be less skilful and content in this area. This also appears to be the case concerning their skills in learning. In addition, while they do adopt a deep approach to learning, the third lowest stream (3C) are more likely to adopt this approach. Their style of learning is decidedly holist, being the most supportive of this scale. However, they enjoy the most freedom in learning and expression in class.

While not statistically significant, this top stream show themselves to be the most motivated of the the four streams especially on the aggregated scale measuring motivation. This is also the case with two out of three of the motivational domains: Interest, and Affiliation. In terms of personality, they show themselves to be quite introverted.

Parental control and concern is highest in this stream.

(ii) **Stream 3B.** This stream appears to be the least satisfied, of all the streams, with it's educational experience. It does

not see its teachers as enthusiastic and is the only stream not to see them as supportive. It agreed least with the scale that described the teachers as being organised, and was the only stream to disagreed about their teachers being organised. As regards the aggregate of overall teacher ability (Organise+Simplify), they agreed least. They were also the only stream to disagree with the scale describing teachers as being able to relate to their pupils.

They had a similar mean score to 3A concerning the deep approach to learning, indicating that they took a moderately deep approach but slightly less inclined than 3A to taking such an approach. They were third least likely to have a holist style in learning.

They showed the highest support for the scale describing school as irrelevant. They agreed least with the scale describing them as having parental support, and only 3D had less parental control. In the aggregate of scales describing overall parental input to the pupils' education, 3B came third again. In terms of motivation, they measured as being the least motivated, and in terms of personality they measure as being extraverted.

(iii) **Stream 3C.** This stream appears to hold a moderate view concerning it's teachers and their ability to teach. However,

it disagreed with the scale describing the teacher as enthusiastic.

In comparison to all four streams, 3C report themselves as adopting a deep approach but using a serialist style, and find it the easiest to study. They also show themselves to be the most skilful in learning. The also experience much freedom of learning in the classroom but not as much as 3A.

They are the most convinced about school relevance in their lives. Parental control and concern is not as evident as in the case of 3A but when this scale and parental support are aggregated, 3C score highest. Parental input appears to be the highest in this stream. In terms of motivation they scored closest to the highly motivated top stream, 3A, and indeed showed themselves to be more motivated than 3A in the motivational domain: Responsibility/Conscientiousness.

(iv) **Stream 3D.** This stream is only second to 3A in terms of holding positive views about it's teachers and their ability to teach. This is also the case in terms of a teacher's ability to simplify and organise material, to offer support to the pupils and to control the class. Regarding a teachers ability to relate to the pupils, 3D are the most satisfied stream.

However, this stream is the least skilful in learning, the least able to study, the least likely to adopt a deep approach, and the least likely to have either a a holist or a serialist style. They also show themselves to be suffering most from inferior feelings.

They also report the least parental control and concern, and when the scales of control and support are aggregated, they also have the least overall parental input into their schooling lives.

5.3 **Analysis of Variance (ANOVA): Discussion of Results and Other Research Findings.**

The findings in this study have yielded results which in some areas do not support current research, most notably in the realm of attitudes to teachers and school, and approaches to learning. On these fronts the streams did not exhibit the characteristics previously reported by other studies e.g. Reid (1986). Reid found that the degree of pupil interest, identification with school/ teachers and institutional norms, tends to lessen as one descends the streams, is not supported by the findings in this study.

Some of the more notable areas which did conform to recent findings were in relation to the self-perceptions of the lower streams which were particularly negative in the realm of

inferior feelings, pupils' academic self awareness and skill in learning.

It was again necessary, in order to cope with the large amount of scales and corresponding findings, to collate, analyse and present the findings of each test separately i.e. Analysis of Variance, Correlation Analysis.

The current literature tends to underline the determinating role of the teachers in the educational chances of their pupils, in terms of the teacher's attitude towards the pupils' academic capabilities. The self-fulfilling prophecy is often referred to in describing this process. At first glance our results above tend to contradict the existence of this process in the school being studied. The lowest stream, 3D, support most the motion that their teachers relate well to them. They are the most positive, next to 3A, about their teachers' skills in teaching, their ability to organise and simplify, support and control the class. Therefore, the pupils in the bottom streams interpret their interactions with their teachers in a positive light, contrary to findings of Barker Lunn (1970) and O'Kelly (1986).

However, if the Thomas theorem is said to exist in these results, it could be so in the more academic realm of their education. The bottom stream was measured as being the least skilled in learning, least able to study, and least likely to

take a deep approach to learning. Perhaps the teachers, while enjoying a friendly relationship with these pupils, are unknowingly expecting less, academically, from them in terms of a type of situation outlined by Moley et al. (1986), Carr and Kurtz (1991), and the U.S. study Pigmalion in the Classroom (1960s) in Chapter Four.

Our results concerning parental interest in their children's educational welfare offers only partial support for other research findings. Carr (1988) found that children from families which took a positive interest in their educational progress were more frequently found in the top-ability groupings. In our study the second from the bottom stream, 3C, enjoyed the highest score on a scale describing parental input consisting of parental control and support aggregated. However, in support of Carr's findings, the bottom stream enjoyed the least parental control and concern, while the top stream experienced the most parental control.

In support of the O'Kelly (1986) thesis the top stream was found to be the most positive about their teachers concerning their skill in teaching and in the support, help and enthusiasm they exhibit. A point which may contribute to this is that they also enjoy the most freedom in learning, of the four streams.

We are unaware of any studies which measured pupils confidence in their learning and study skills. However, we expected the top streams to be the most self assured about their skill in learning and their study skills. This was not found to be the case in our study. The second stream from the bottom 3C, proved to be the most confident, but were closely followed by the top stream 3A. The second stream 3B and the last stream 3D were least satisfied with their skill in learning in the class room, and their study habits at home. This finding may lend support to the claim by Barker Lunn (1970) that 15% of pupils are in the wrong stream, so that some of the 3C pupils should indeed be in 3A.

In terms of dissatisfaction with their educational experience, the stream second from the top, 3B, tend to be consistently so, across a wide range of areas. They are the only stream not to see their teachers as supportive or enthusiastic. They also do not agree that their teachers can relate to them, and again are the only stream to hold this view. They agree least with the descriptions of their teachers as being well organised and able to simplify material being taught. Indeed, they showed the most support for the scale describing school as irrelevant. A contributory factor to such a negative outlook to their educational experience may be the fact that 3B were found to have the least parental support, and low parental control.

In terms of other research, the bottom stream is very uncharacteristically positive toward school and teachers, while the second highest stream is so untypically negative. One possible explanation is rooted in research carried out by Hannan and Boyle (1987). These researchers have alluded to a situation where the negative effects of streaming experienced by the lowest streams were avoided where there is a concentration of resources on these pupils. This rearrangement of staff and resources was successful and had the desired effect in the Hannan and Boyle case. However, perhaps a similar attempt was made in the school we are studying but did not prove to be totally successful, instead inducing negative side effects. Perhaps, there was only partial success in this school, where the gains only accrued to the lowest stream but at the expense of the top two streams, 3B being the greatest casualty. Therefore, great care must be taken not to push reform too far in one direction, how ever well intentioned.

The results of the correlation analysis contributes further to the notion that pupil perceptions differ according to stream position. Two sets of correlation analyses were undertaken. One, to establish what scales describing pupil perceptions of their educational environment correlate most with the different approaches to learning (ie Deep, Surface, and Strategic). And the second, to establish what scales describing pupil perceptions of their educational environment correlate most with the three domains of pupil motivation.

The relationship between approaches to learning and pupils perceptions of their educational environment, are widely different for each stream.

5.4 Correlation Analysis and Discussion: Between Pupil Perceptions of School/Teachers, and Approaches to Learning.

Deep Approach.

In the case of pupils using a deep approach to learning, a teachers skill in organising (r=.4717) is the only correlate for 3A. Yet, 3B has four different correlates for this approach, the strongest correlate being factual assessment (r=.5564) along with teacher control (r=.5494). It appears that 3B is a class that need much teacher supervision and guidance to enable students to apply themselves at a deep and meaningful level. The second from the bottom stream 3C show a correlation between teachers' ability to show them how to study (r=.5434) and the deep approach. There is an obvious and self-evident logic to this relationship. However this is the only stream to exhibit this relationship. The bottom stream 3D show a negative correlation between a teacher's holist style (r= -.4558) and the deep approach. This infers that the endless use of facts and details do not encourage a deep approach in pupils of this stream. Instead, it suggests that teachers need to use more lively examples and stories for bottom stream pupils, to encourage a deeper and more meaningful approach to learning.

Surface Approach

The surface approach to learning exhibits only moderate correlations in the cases of 3A and 3B. The top stream 3A shows teacher formality (r=.3181), school Irrelevance (r=.3146) and teachers' ability to teach pupils' study skills (r= -.3130) to be correlated to this approach to learning. The next stream down, shows a more interesting and a slightly higher correlation result. The relationship is negative, teacher discipline (r= -.4282) and teacher support (r= -.3444), indicating that the less their teachers support and enforce discipline, the more likely 3B pupils are to adopt a surface approach to learning.

However, 3C shows a high correlation between the surface approach and the three variables, school's social climate (r= .6271), teachers serial style (r=.6113), and teachers' holist teaching style (r=.3810). In this stream's case, a surface approach is more likely to be adopted if there is a friendly class atmosphere, combined with a teacher who either uses too many off the point examples, or who fails to bring their material to life. The bottom stream is more likely to learn using a surface approach if the teacher is too holist (r=.4211) ie uses too few lively examples, and is too factual in his assessments (r=.4552).

Strategic Approach.

In the case of a strategic approach to learning, the top

stream appears less likely to adopt a strategic approach to learning the more it perceives school as irrelevant (r= -.4726). Other scales also correlate significantly, School social climate (r= .3459) and teacher support (r=.3869), indicating a strategic approach is adopted if there is a friendly atmosphere in the classroom combined with a supportive teacher.

The second stream, 3B, shows six scales to be reasonably correlated with the strategic approach. The stongest correlation is with teachers' skill in simplifying material (r=.5776), along with teachers being in control (r=.3846) in a formal way (r=.4169. This approach is also associated with an assessment system which is too factual (r=.4382), and a class atmosphere which is characterised by a freedom in learning (r=.4034) and is friendly (r=.3728).

The stream 3C show an association between the strategic approach to learning and teachers' ability to teach them study skills (r=.5749). This extends to an association with a teacher's skill in organising their material (r=.3795), freedom in learning (r=.4668), heavy workload (r=.4614), and a friendly class atmosphere (r=.3303).

An interesting point to note, concerning the strategic approach and pupils in the bottom stream, is that all the statistically significant correlates are negative. The

strongest association with this approach includes teachers holist style (r= -.5967), teacher serial (r= -.4483) indicating that this approach will be adopted if the teacher either uses too many lively examples of explanation or tends to wander off the point. There is also a negative association between this approach and a pupils' perception of school being irrelevant (r= -.3804), which appears to be a rational enough finding. The less a pupil sees school as relevant, the less strategic planning and thought s/he is likely to undertake.

The negative association between a strategic approach and the two variables, workload being too great (r= -.3761), and the ability of a teacher to teach study skills (r= -.3794) is less easily explained. One suggestion might be that a heavy workload leads to a withdrawal from engaging in any approach to study. This might explain this negative relationship. In comparison to 3D, 3C has a positive association between a strategic approach to learning and a heavy workload. This could be because a pupil when overburdened with a heavy workload must be clever in the choice of material to be studied. I would therefore suggest that 3D lack the skills to make that choice.

A similar analysis could be offered to explain the negative association between the strategic approach and teachers' ability to teach study skills. The suggested explanation being that if a teacher shows a pupil some study techniques, the

bottom stream still do not feel that this helps them to be better able to chose what material is best studied. Whereas 3C (who exhibit a + association) are able to use these skills and so use them as tools in helping them to chose what is to be studied.

5.5 Correlation Analysis and Discussion: Between Pupils' Perceptions of School/Teachers and the Motivation Domains.

Before discussing these results, it may prove useful to the reader to recall briefly that there are three domains in the model of school motivation utilised in this study; 1. Cognitive, 2. Interest, and 3. Responsibility and Consciousness. The purpose of this correlation exercise is to see which aspects of the educational environment, as perceived by the pupil, associate most with which motivational domains. As a result it is hoped to build up a picture which illustrates what elements motivate each stream most. The answer to this question should help guide teachers to those areas which prove most fruitful in motivating their particular stream.

In our findings it is evident that a teacher's skill in relating to the pupils has the strongest association with school motivation for the top stream, 3A, while a teachers

ability to teach pupils some study skills, proves to be the source of motivation for the bottom stream, 3D.

5.5 Strongest Scales Associated with School Motivation: Analysis and Discussion.

Stream 3A.

The highest correlation in this stream involves the scale measuring teachers' ability to relate to the pupils (r=.6401). This correlation involves the motivational domain of affiliation, implying that these pupils are partial to the friendly and emotional influence in terms of a motivating force. This is further substantiated by the next highest correlated scales, teacher support (r=.6055) and teacher enthusiasm (r=.6006).

Therefore, these results suggest that a teacher who is enthusiastic, supportive and attempts to relate to these pupils is likely to be able to build and improve on their motivation levels.

Stream 3B

The highest correlation in this stream involves the scale measuring the social climate of the school (r=.7033) and the affiliation domain of motivation. This finding suggests that 3B's school motivation is mainly dependent on there being a friendly atmosphere in the classroom. As in the case of the

top stream, 3B also need to perceive teacher enthusiasm (r=.6070) to be sufficiently motivated. A teachers' ability to organise and simplify, are also reasonably highly correlated to school motivation for the 3B group.

Therefore, these pupils are more likely to be motivated if they perceive their teacher to be competent and enthusiastic, as well as there being a friendly atmosphere in the classroom.

Stream 3C

The stream 3C has the greatest number of scales correlating with school motivation. The strongest association with school motivation occurs with the scale measuring too heavy a workload and the motivational domain of interest (r=.7117).

This suggests that those pupils in this stream derive much of their motivation from the workload assigned to them by their teachers. However, it is likely that these pupils also need to feel they have a certain amount of freedom in learning (r=.6090) if they are to be sufficiently motivated.

In addition, the top three streams are likely to be motivated more if they perceive to have a certain amount of freedom of learning, an indication of the need for autonomy. Except for 3B, it appears that the other streams would respond positively

in terms of motivation should their teacher spend some time outlining some useful study techniques.

Stream 3D

This stream exhibits low correlations between school motivation and other scales. The strongest correlation occurs between the scale describing teachers' ability to teach pupils study skills (r= .5132) and the motivational domain of Interest. This suggests that the bottom stream pupils have their interest aroused by teachers who show them how to go about studying. The negative correlation with the scale describing teachers as formal and not encouraging discussion indicates that motivation suffers, if teachers promote too formal a manner of teaching. It is interesting that this stream is the only stream which associated a formal teaching style with a lowering of motivation levels, yet they do not appear to require teacher support or enthusiasm to aid their motivation. Instead, a tendency of teachers to control and

Stream 3A **Table 5.5.5.**

Pearson Product-Moment Correlation Coefficients: Domains and Associated Scales.

Domains	Scales	(r-value)
.		
.		
Affiliation	(1) Teacher Skill in Relating	.6401
	(2) Teacher Enthusiasm	.6006
	(3) Freedom in Learning	.5553
	(4) Teacher Control	.4897
	(5) T. Skill in Organising	.4584
.		
.		
Interest	(1) Teacher Skill in Relating	.5313
	(2) Teacher Support	.6055
	(3) Teaching Study Skills	.5248
	(4) T. Skill in Organising	.4941
	(5) Social Climate of School	.4619
	(6) T. Skill in Simplifing	.4479
	(7) School Discipline	.4415
	(8) Freedom in Learning	.4157
.		
.		
Responsibility	(1) T. Skill in Organising	.5319
	(2) Teaching Study Skills	.4773
	(3) T. Skill in Organising	.4472
	(4) Teacher Support	.4638
	(5) School Irrelevance	-.4775

Only scales with an r-value >+.4 or <-.4 are included.

Stream 3B **Table 5.5.6.**

Pearson Product-Moment Correlation Coefficients: Domains and Associated Scales.

Domains	Scales	(r-value)
.		
.		
Affiliation	(1) Social Climate	.7033
	(2) Teacher Enthusıasm	.6070
	(3) T. Skill in Organising	.5843
	(4) Freedom ın Learnıng	.5294
	(5) School Discıpline	.4998
	(6) Teacher Support	.4861
	(7) Teacher Control	.4763
.		
.		
Interest	(1) Factual Assessment	.5650
	(2) Teacher Control	.4616
	(3) T. Skill in Ogranising	.4240
	(4) Teachıng Study Skılls	.4048
.		
.		
Responsibility	(1) Skill ın Simplifing	.5760
	(2) T. Skıll ın Relatıng	.4892
	(3) Freedom ın Learning	.4488

Only scales with an r-value >+.4 or <-.4 are included.

Stream 3C **Table 5.5.7.**

Pearson Product-Moment Correlation Coefficients: Domains and Associated Scales.

Domains	Scales	(r-value)
.		
.		
Affiliation	(1) Freedom In Learnıng	.6090
	(2) Social Clımate	.5392
	(3) Teaching Study Skills	.4683
	(4) Workload	.4453
.		
.		
Interest	(1) Workload	.7117
	(2) Freedom in Learning	.5631
	(3) Teachıng Study Skills	.5417
	(4) Teacher Criticısm	.4207
	(5) T. Skill in Organisıng	.4127
.		
.		
Responsibility	(1) Teacher Formality	.4298
	(2) Teacher Holıst Style	.4060

Only scales with an r-value >+.4 or <-.4 are ıncluded.

Stream 3D — Table 5.5.8.
Pearson Product-Moment Correlation Coefficients: Domains and Associated Scales.

Domains	Scales	(r-value)
.		
.		
Affiliation	(1) School Irrelevance	-.4979
	(2) Teacher Formality	-.4718
.		
.		
Interest	(1) Teaching Study Skills	.5123
	(2) School Irrelevance	-.4302
	(3) Teacher Control	.4073
.		
.		
Responsibility	(*) (None Correlated where r> +/- .4000)	

Only scales with an r-value >+.4 or <-.4 are included.

monitor their work rate accompanied by a belief that school is not irrelevant, appears to be more associated with an enhancement of their motivation levels.

5.6 **A Brief Profile of each of the Four Streams.**

Stream 3A.

The analysis of variance revealed this stream to be the most positive about their teachers, in terms of academic and interpersonal teacher pupil relationships, a finding substantiated by current research. They appear to enjoy the highest level of perceived teacher support and enthusiasm, of the four steams. In support of this, 3A exhibited a high correlation between school motivation and scales describing a teachers ability to relate to pupils, teacher support and teacher enthusiasm. Good teacher-pupil and pupil-teacher tend to be important features in the motivation of these top stream pupils.

The analysis of variance results show 3A to be less than satisfied with their learning skills, 3C tending to outperform them in this area. In addition 3C are more likely to adopt a deep approach than are 3A.

Correlation analysis shows the predictable association that the more they perceive their school as being irrelevant the less strategic they become. Combining this with the finding

that 3A are given, or enjoy, the most freedom in learning, underlines the need for teachers to maintain a focus on educational relevance. Yet the teachers are not working alone in this stream, 3A has the highest incidence of parental control, in terms of homework and study.

Stream 3B.

Contrary to other research, this high stream is the most negative of all the streams about their educational experience. The analysis of variance shows they are alone in not seeing teachers as supportive, and are the least convinced about teachers' teaching skills. Again they are the only stream to point to an inability of their teachers to relate and explain material being taught.

They also see school as being irrelevant, holding the strongest view of this. Perhaps the fact that they show themselves as having the least parental support may have a bearing on such negative views of teachers and school. They were among the lowest of overall parental input. They had a similar mean score to 3A as regards taking a deep approach. They exhibited a correlation between taking a deep approach and teacher control or inspection of their schoolwork, indicating further deficits in motivation. There was also a correlation between taking a strategic approach to learning and teachers' ability to simplify material, and teachers' skill in relating or making sense of their learning material,

indicating that these pupils may need more help and direction from their teachers.

Stream 3C.

This stream tends to be less extreme and more reserved in their appraisal of teachers, and their ability to teach. The only breach of this trend concerns teacher enthusiasm, which this stream denies exists.

However, they are largely satisfied with their academic experience, exhibiting an association between school motivation and a heavy workload. This suggests that, while the workload may be deemed as being too heavy, the content of this load nonetheless provides a source of motivation. This appears to be an indirect compliment to these teachers. There is also a high correlation between freedom in learning for a pupil and school motivation. This was evident in the other two top streams also, but not as pronounced as in 3C.

According to the analysis of variance, this stream is the most likely stream to adopt a deep approach, using a serialist style. That is to say, they work through a problem in a step by step, orderly fashion. This contrasts with both 3A and 3B who adopt a holist style of learning, implying they try to see each topic as a whole before they start working. The F-test also reveals 3C to be more content with their learning skills.

While moderate, 3C show an association between a teachers ability to teach pupils study skills and both the deep and strategic approach. It appears a teacher's ability to teach pupils how to study is important in influencing which kind of approach, or combination of approaches a pupil adopts. Similar findings revealed themselves in the streams 3A and 3D.

This stream gives the impression of being more independent and balanced, than the other streams in terms of perceptions of school and teachers, and indeed of themselves. The results of these measurements present a picture of a self-confident, relaxed class, and this is reflected in the finding that they score highest on perceiving school as relevant. Perhaps, the fact that they appear to have the highest parental input in their lives, is a strong contributory factor. This input takes the form of the balanced ingredient of control and support - a mix unique to 3C.

Stream 3D.

Contrary to current research findings, this bottom stream is only second to the top stream in terms of holding a positive view of teachers and their ability to teach. They view teachers as helpful and supportive, and able to organise and simplify material to the satisfaction of these pupils. They are the most content with teachers ability to relate and explain material being taught.

However, they show themselves to be the least skilful in learning, the least able to study, and the least likely to adopt a deep approach. They show a reasonable association between a teacher's ability to teach study skills to their pupils and school motivation. This implies that there is a likelihood that such teaching could yield higher levels of cognitive interest. Furthermore, it suggests that the willingness is there on the part of the pupil, and that engagement followed by advancement is likely, should such learning skills be taught.

In addition, teacher control and inspection of pupil workrate, along with a perception of school relevance, is associated with higher school motivation.

It is both interesting and important to note that a formal style of teaching is not associated with an increase in pupil motivation. There exists instead, while moderate to low, a negative correlation between these two variables.

There is a moderate to strong association between a teacher having too holist a style of teaching and a pupil taking either a deep or a strategic approach. This suggest that if a teacher uses too many examples, it has an adverse effect on the quality of pupil learning.

The bottom stream pupils appear to deviate from the projected image portrayed by other studies on streaming in terms of negative attitudes towards the teacher. They, however, have problems in the academic arena, but do also disclose a willingness to improve. Direction, accompanied by knowledge about learning skills and techniques, appear to be the requirements of the day. An additional hampering of their developmental potential centres on a lack of parental input, noticeably lacking in contrast to the other streams. However, the awareness is evident in these pupils as to the relevance of school in their futures, as outlined earlier.

5.7 Summary and Conclusion.

This chapter attempted to build up a profile of each stream based on the findings of the analysis of variance and correlation analysis, in preparation for a review of these findings in relation to current research. Discussions of the analysis of variance and both correlation analyses were undertaken for each stream.

The correlation between pupils perceptions of school/teachers and approaches to learning was treated followed, secondly, by the correlation between perceptions of school/teachers and school motivation. In the case of school motivation, the strongest associations were extracted and a stream profile constructed and discussed.

A profile of each stream was presented, taking all the statistical tests into account, together with discussion of the findings in each stream.

The literature review chapter is testimony to the extensive debate surrounding the practice of streaming in the Post Primary System. Much of the attention given to this form of ability grouping tends to be critical, such criticism centring on the negative emotional and academic effects streaming has on the lower streams. Broadly summarised, most agree that streaming hampers the educational progress of bottom stream pupils, asserting that the better teachers and resources are focused on the top streams, at the expense of those at the bottom. Reference is also made to the stagnant nature of inter-stream mobility which, it is contended, further retards educational advancement for pupils in the lowest streams.

The net result, we are told, is that the streams tend to become insular, characterised by inter-stream resentment. The more positive and progressive pupils tend to belong to the higher streams, but the scenario tends to degenerate into a non-academic delinquent sub-culture, as one descends the streams.

It is from this literature that we drew our hypotheses. The main results and findings of our study are summarised and discussed in the following points;

1. We found that stream demarcation does indeed represent a difference in the pupil characteristics of each stream. Each of the four streams was found to have a set of definable characteristics largely unique to itself. However, an important point to note, is that we did not uncover the same polarity of positive/negative attributes, corresponding to top and bottom streams respectively, as reported in other research.

The most noticeable area where this finding holds, is in pupils' attitudes to teachers and school. The top and bottom streams hold almost equally positive views about their teachers and their ability to teach effectively. In fact, the most negative stream concerning their teachers is 3B, the second from the top group. Indeed, the bottom stream, 3D, show themselves as being the stream that relates best to its teachers and their style of teaching.

2. In further contrast to current research, we found that the stream second from the bottom 3C, tended to be the most balanced, moderate and consistent in its views. They point themselves to be the most content with their skill in learning, and most convinced about school being relevant to their future.

3. While, the bottom stream 3D, is found to be the stream least skilful in learning, the least able to study, and the

least likely to adopt a deep and meaningful approach to learning, this is not due to any apathetic or anti-academic attitude. In support of this, 3D show thatthe strongest association with school motivation, in this stream, occurs with the scale relating to pupils being taught study skills. Therefore, the willingness to learn appears to be present in this stream and waiting to be furnished by teachers with the necessary learning techniques and skills.

4. Current research emphasises the role of parental input in the successful educational outcome of a pupil. In support of this it is worth noting, therefore, that the bottom stream 3D is found to have the least amount of parental control and support. However, the opposite is not the case for the highest stream 3A, while they do score highest on the scale measuring parental control, it is 3C who show themselves to have the highest level of overall parental input into their educational life.

5. The scales measuring surface and strategic approaches to learning while failing to reach significance in the analysis of variance did yield a surprising result. The top stream, 3A, were more likely to take a surface approach to learning than were 3C who showed themselves least likely to adopt this strategy. In addition, 3C were the most strategic in what they were prepared to learn, followed by 3B. The scale measuring the deep approach to learning did reach significance and

yielded some interesting findings also. Unexpectedly, the top stream 3A do not prove to be the most likely proponents of this approach. Instead, 3C show themselves to be more likely to adopt this approach than 3A or 3B both of whom have similar mean scores.

The conclusion here, we suggest, is that 3C are comfortable with all three approaches to learning, being able to abopt all three simultaneously, while the top stream tends to favour the less masterful surface approach.

6. An inter-stream analysis of school motivation yielded some interesting findings, though not statistically significant. The top stream show themselves to be the most motivated of the the four streams especially on the aggregated scale measuring motivation. This is also the case with two out of three of the motivational domains: Interest, and Affiliation.

In terms of motivation, 3B measured as being the least motivated. In contrast to other research e.g O'Kelly (1986), the lower stream 3C proved to be quite motivated. They scored closest to the highly motivated top stream, 3A, and indeed showed themselves to be more motivated than 3A in the motivational domain: Responsibility/Conscientiousness.

All four streams associate teachers' teaching study skills with school motivation. Except for 3D, a good social climate

in the classroom is correlated with motivation, the highest association occurring in the stream 3B. Freedom in learning also tends to be an important factor motivating the top three streams. The bottom stream 3D is unique, in that it exhibits a negative correlation between school motivation and teacher formality. This indicates the a teacher adopting a formal style of teaching, is likely not to be successful in terms of motivating these pupils.

However, correlation analysis yields some interesting associations, in effect, providing information for teachers, concerning the most likely sources of school motivation, unique to one or common to all streams.

In the case of 3A a teacher who is enthusiastic, supportive and attempts to relate to these pupils is likely to be able to build and improve on their motivation levels. The pupils in 3B likely to be motivated if they perceive their teacher to be competent and enthusiastic, as well as there being a friendly atmosphere in the classroom. The 3C pupils in this stream derive much of their motivation from the workload assigned to them by their teachers. However, it is likely that these pupils also need to feel they have a certain amount of freedom in learning if they are to be sufficiently motivated.

The correlation analysis suggests that the bottom stream pupils have their interest aroused by teachers who show them

how to go about studying. It interesting to note that these lower steam pupils did not feel that their teachers gave thme enough help in showing them how to study. In the case of this stream, such help by teachers would be fruitful in terms of enhancing pupil motivation. A unique finding was the negative correlation with the scale describing teachers as formal and not encouraging discussion indicates that motivation suffers, if teachers promote too formal a manner of teaching. It is interesting that this stream is the only stream which associated a formal teaching style with a lowering of motivation levels, yet they do not appear to require teacher support or enthusiasm to aid their motivation. Instead, a tendency of teachers to control and monitor their work rate accompanied by a belief that school is not irrelevant, appears to be more associated with an enhancement of their motivation levels.

In addition, the top three streams are likely to be motivated more if they perceive to have a certain amount of freedom of learning, an indication of the need for autonomy. Except for 3B, it appears that the other streams would respond positively in terms of motivation should their teacher spend some time outlining some useful study techniques.

7. In terms of personality, 3A show themselves to be quite introverted conforming to other findings such as Entwistle (1972) who found that success in second level school may be

linked to some extent to introversion. In contrast, 3B measure as being extraverted. An interesting but predictable finding was that 3D show themselves to be suffering most from inferior feelings. Lynch (1988) reported similar findings. Perhaps this is an area for future study, concerning the self-concepts of the lower stream pupils and how this effects their work rate and effort levels i.e. the self-fulfilling prophecy.

8. An interesting finding sheds further light on an observation made by Hannan and Boyle (1987). They refer to a scenario where the negative effects of streaming, specific to the lower streams, did not materialise. This, they point out, was mainly due to the school in question focusing the necessary resources on the lower stream pupils.

We suggest, based on the uncharacteristically positive findings in the bottom streams as outlined above, that a similar scenario to that observed by Hannan and Boyle materialises in our study. If this is the case, then we further suggest that a stream not located at the top or the bottom streams could end up being neglected. In our study, the stream 3B may be a case in point. Therefore, the question arises as to whether the best resources are directed to the top and bottom streams, at the expense and neglect of the stream 3B.

In view of this possibility and danger, we propose that future studies should direct attention to this area and investigate further the likelihood of such a situation arising, along with possible causes and related implications. In addition, from our findings, we suggest that further studies in the area of pupil study and learning techniques, in terms of actual and perceived self-competence, may prove informative.

The above findings of this study show that current research on streaming does not tell the whole story concerning the characteristics and attitudes of pupils in the different streams, particularly in the lower ones. In our study there is no evidence to suggest that a delinquent sub-culture exists in the bottom streams. If anything, the second from the top stream expressed a decidedly negative attitude towards school and teachers.

One possibility put forward by our research to explain such untypical dispositions, represented by 3B, was that provisions initiated to protect the lower streams may have resulted in the neglect of the stream 3B. We suggest that further research is necessary in this area.

The most balanced and well adjusted stream tended to be the otherwise unlikely class, 3C. Pupils proved here to be more self-assured in their educational environment than those in the other three streams. A higher and more even handed level

of overall parental input was enjoyed by this stream, a factor which other research suggests contributes to a healthy adjustment to school life.

We attempted a comprehensive analysis of the likely areas which would prove fruitful in the case of school motivation upon which a teacher should focus some attention. These areas overlapped stream divisions in some cases, but some areas proved to be unique to particular streams also.

Finally, it is evident from the findings in chapters four and five, that these results are neither an attempt to discredit, nor sanction the practice of streaming. The overall purpose of this investigation was to record, in as wide a range of characteristics as possible, the similarities and differences in pupils of a stream process. In doing so, some current research has been challenged and certain assumptions highlighted and challenged, such as the concept of intelligence and how its misconception contributes to support for streaming.

APPENDICES

Appendix 1
Inventory

An Enquiry into Pupils' Feelings About School and School Work.

PART A: About Me and My Schoolwork.

About the Research

You have been selected to take part in a research project which is looking at the way young people feel about some of their experiences in school, and about some of the other things which might affect the way they react to those experiences.

To make comparisons we have to ask rather a large number of quite short questions which come at the problem in different ways. Do spend long on each question. We are interested in your first reaction; how you feel about it? Answer it and move quickly on.

Although we asked you to put your name on each questionnaire, this is only to enable us later to compare your replies with end of year marks. The teachers will collect the questionnaires and immediately seal them in an envelope which will be returned directly to us. None of the information on your answer book will be seen by anyone in the school.

It is very important to us that the answers you give us are exactly what you really feel, and not what you think we expect you to feel! There will be an opportunity at the end to add any comments of your own. Now we come to the questionnaire itself. It is long and detailed. Please be patient and careful in filling it in for us, It will help us a lot.

Instructions.

This questionnaire, which is in two sections, contains comments made by pupils about themselves, and about their school and schoolwork. To what extent do you agree or disagree to what they say? As the comments are feelings based on personal experience, there can be no "right" or "wrong" answer. We are interested in your own feelings or experience. Read each comment carefully and immediately show your reaction to it by drawing a circle round one of the letters in the right-hand side. These letters are our way of letting you put down your views easily.

√√	a	means that you definitely agree with the comment
√	b	means that you agree to some extent
?	c	means that you cannot decide or it doesn't apply
X	d	means that you disagree to some extent
XX	e	means that you definitely disagree with the comment

Name..... School.....
Class..... Age.....

		✓✓✓ ? X XX
A1	I find it easy to understand teacher's instruction about work.	a b c d e
A2	I try to see the connection between ideas in one subject and those in another.	a b c d e
A3	I find I have to rely on memorizing a good deal of what we have to learn.	a b c d e
A4	I am good at planning my study time effectively	a b c d e
A5	It's difficult for me to organise my study time effectively.	a b c d e
A6	I work out what I am going to put in an answer before hand.	a b c d e
A7	In tackling a new topic or in revising, I try to see each topic as a whole, before I start working.	a b c d e
A8	I prefer to tackle each part of a topic or problem in order, working through it one step at a time.	a b c d e

√/√ ? X XX

A9 I think that education should be mainly concerned with helping us to get on well with other people a b c d e

A10 When people ask me questions I am always ready with my reply. a b c d e

A11 I easily get annoyed with things. a b c d e

A12 I often get discouraged at school. a b c d e

A13 I enjoy helping other pupils with their problems in their school work. a b c d e

A14 I get so interested in some topics in school that I try to read more about them. a b c d e

A15 If I'm given something to do, I always try to do it as well as possible. a b c d e

A16 I enjoy talking to my parents about the things that happen to me in school. a b c d e

A17 My parents demand a lot of me and expect me to work hard. a b c d e

---

✓✓✓? X XX

A18 Most of my pals have little interest in school work. a b c d e

A19 I can usually pick up the important points in a lesson or in a book. a b c d e

A20 I generally try to understand things, even when they seem difficult at the beginning. a b c d e

A21 Often I find I have to read things without have a chance to really understand them. a b c d e

A22 If I do something badly, I try to find out what I've done wrong, so I can do better the next time. a b c d e

A23 I'm rather slow at starting my home work. a b c d e

A24 I find it easy to find information in a book. a b c d e

A25 When I'm reading, the ideas produce vivid images which sometimes take on a life of their own. a b c d e

A26 I prefer to stick to one approach to a problem until I'm sure it won't work. a b c d e

---

//? X XX

A27 It seem to me that educatıon should be mainly concerned with preparing us for work. a b c d e

A28 Other people seem to think I'm a lıvely person. a b c d e

A29 I seem to spend a lot of time worrying about what might happen in the future. a b c d e

A30 I fınd it very hard to talk in front of the class. a b c d e

A31 It makes me feel really good when I my classmates see that I've done wall. a b c d e

A32 I often feel excited when a new topıc ıs introduced. a b c d e

A33 I always put a lot of effort ınto what we are asked to do. a b c d e

A34 My parents are really happy when I do well at school. a b c d e

A35 In school work my parents expect me to set a hıgh standard. a b c d e

---

✓✓✓? X XX

A36 I enjoy fooling around in class with my friends. a b c d e

A37 I seem to be able to get my ideas over well enough. a b c d e

A38 I often ask myself questions about the things I hear. a b c d e

A39 I tend to read very little beyond what is required by the teacher. a b c d e

A40 If conditions are not right for me to study, I always try to do something to change them. a b c d e

A41 If I'm interrupted I find it difficult to get back to study. a b c d e

A42 I think I'm good at making my own notes. a b c d e

A43 I like to play around with ideas of my own even if they don't get me very far. a b c d e

A44 When I'm explaining something, I usually try to give a lot of detail. a b c d e

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//?? X XX

A45 In my view education should be mainly concerned with improving our knowledge. a b c d e

A46 I can easily get some life into a dull party. a b c d e

A47 I'm easily hurt if someone criticises me or my work. a b c d e

A48 There are lots of things about me that I'd change if I could. a b c d e

A49 I enjoy talking over my work with friends in my class. a b c d e

A50 There are lots of lessons which I find challenging and exciting. a b c d e

A51 I would be corrected than left to do something wrong. a b c d e

A52 My parents are very ready to talk over anything at school that is worrying me. a b c d e

A53 My parents always the my school reports seriously. a b c d e

---

√/√? X XX

A54 Its important to me to keep ın with my pals even if it means fooling around. a b c d e

A55 I seem to be good at explaining what we've learned. a b c d e

A56 I try to relate what I've read to previous work. a b c d e

A57 I prefer subjects in which the facts to learn are easy to see. a b c d e

A58 I plan my working time carefully to make the best use of ıt. a b c d e

A59 I am easily distracted from my homework. a b c d e

A60 I work out my own ways of remembering things. a b c d e

A61 I suppose I'm a bit too ready to jump to conclusion. a b c d e

A62 I'm very cautious about accepting what I read without having thought it through first. a b c d e

---

√√√? X XX

A63 I think that education should be mainly concerned with helping us to take responsibility and to recognise the need to try to do things well a b c d e

A64 I like plenty of life and excitement around me. a b c d e

A65 I often feel tired an miserable for no good reason. a b c d e

A66 I give in very easily - perhaps too easily. a b c d e

A67 I feel really good when teachers tell me they are pleased with how hard I've tried. a b c d e

A68 I don't mind working hard if I learn something really worthwhile. a b c d e

A69 When I don't do as well as I could at school, I feel ashamed of myself. a b c d e

A70 My parents are always helping and encouraging about my schoolwork. a b c d e

---

✓✓✓? X XX

A71 My parents try to make sure I can do my homework without ınterruptıon. a b c d e

A72 It's very important to me to have the same sort of thıngs as my pals. a b c d e

A73 It's not often that I have difficulty in learning new topics. a b c d e

A74 When I'm trying to understand new ideas, I often try to see how they mıght apply in real-life situations. a b c d e

A75 I lıke to be told exactly what to do in the work we are given. a b c d e

A76 When I'm doing a peace of work, I try to see how to get the highest possıble of marks on ıt. a b c d e

A77 I never seem top have enough time to finısh my work. a b c d e

A78 I'm quite good at revisıng even a whole terms work. a b c d e

---

✓✓✓? X XX

A79 When I'm trying to remember something, I can often see or hear it in my mind. a b c d e

A80 When I'm learning, I like things to be clearly set out under headings of in lists. a b c d e

A81 It seems to me that education should be mainly concerned with preparing us for adult life. a b c d e

A82 I find it easy to make friends. a b c d e

A83 When things get me down, it takes me a long time to cheer up again. a b c d e

A84 Most people are better liked than I. a b c d e

A85 I really enjoy discussing with teachers ideas about life in general. a b c d e

A86 I get very enthusiastic about some of my school work. a b c d e

A87 I am ready to take responsibility for all my actions no matter what. a b c d e

---

√/√? X XX

A88 If I do well at school, my parents always show that they are pleased with me. a b c d e

A89 My parents expect me to find enough time to do my homework well. a b c d e

A90 Being with my pals often makes me late for class. a b c d e

If you have feelings of your own about yourself or your school work which we have not covered in our questions, please write comments about them below.

We thank you for completing this first part of our questionnaire. The final part will ask questions on your feelings about school.

PART B: ABOUT MY SCHOOL.

Please read instructions carefully.

This is the second part of our questionnaire which, as you will remember, contains comments made by pupils, this time about their school. To what extent do you agree or disagree with what they say? As comments are feelings based on experience there can be no right or wrong way answers. We are interested in your own feelings or experience.

Read each comment carefully and then immediately show your reaction to it by drawing a circle round one of the letters on the right. These letters are our way of letting you put down your views easily.

✓✓	a	means that you definitely agree with the comment
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?	c	means that you cannot decide or it doesn't apply
X	d	means that you disagree to some extent
XX	e	means that you definitely disagree with the comment

Name..... School.....
Class..... Age.....

√// ? X XX

B1 Our school tries to promote a friendly climate. a b c d e

B2 The rules in this school are generally sensible and fair. a b c d e

B3 This school doesn't seem to provide much knowledge which will be useful in later life. a b c d e

B4 We are given far too much work to do in this school. a b c d e

B5 We seem to have far too many factual tests here. a b c d e

B6 Our teachers seem more ready to see our mistakes than what we have done well. a b c d e

B7 We get a good deal of choice in the work we have to do here. a b c d e

B8 Our teachers explain to us how to go about studying. a b c d e

B9 We are generally given enough time to understand the things we have to learn. a b c d e

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B10 The work-sheets we are given are generally clear and helpful. a b c d e

B11 Most of our teachers seem to be good at pitching the lessons at the right level. a b c d e

B12 Not enough teachers use lively examples or stories in their lessons. a b c d e

B13 Teachers use too many examples and prevent us getting on with the subject. a b c d e

B14 There are few opportunities given for discussions in class. a b c d e

B15 A lot of our teachers seem to enjoy working with us. a b c d e

B16 Teachers here generally try hard to help all the pupils. a b c d e

B17 Our teachers set high standards in what they expect of us. a b c d e

B18 A lot of my class mates are friends of mine. a b c d e

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B19 Our school puts a lot of emphasis on encouraging to be reliable and dependable.	a b c d e
B20 When new school rules are introduced they are usually followed.	a b c d e
B21 Most of what we learn here is unlikely to help us solve problems in real life.	a b c d e
B22 We are expected to cover far too many topics in each subject.	a b c d e
B23 It would be better if we had more tests in which we could give our own views.	a b c d e
B24 We need more praise and encouragement from most of our teachers.	a b c d e
B25 We are often encouraged to make our own notes.	a b c d e
B26 Our teachers make sure we know how to get the information we want from books.	a b c d e
B27 Our teachers are generally good at explaining things to us.	a b c d e

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B28 The notes that most of out teachers gıve us are clear and useful.	a b c d e
B29 Most of our teachers present theır lessons ın a well-organısed way.	a b c d e
B30 Too many teachers stick closely to the subject without brınging things to lıfe for us.	a b c d e
B31 Teachers too frequently expect us to use our imagination.	a b c d e
B32 Our teachers seem to spend a lot of the lesson talkıng without letting us join in.	a b c d e
B33 Many of our teachers seem to put a lot of effort into preparıng theır work.	a b c d e
B34 Most of the teachers here make a real effort understand difficulties pupils have with theır work.	a b c d e
B35 Most of the teachers here make sure we pay attention to what they are saying.	a b c d e

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B36 Most of the pupils in this class get on well together.	a b c d e
B37 In our school we are actively encouraged to become involved in creative activities.	a b c d e
B38 There is really rather little bad behaviour in this school.	a b c d e
B39 The work we do here is rather dull and boring.	a b c d e
B40 We don't seem to have enough time to finish all the work we are given.	a b c d e
B41 Too many teachers just ask us factual questions.	a b c d e
B42 When teachers criticise our work, too often they do it in a way which which makes us feel bad.	a b c d e
B43 A lot of teachers encourage us to make use of our own ideas.	a b c d e
B44 Our teachers often tell us how to plan our work.	a b c d e
B45 Our teachers generally help us to make links	

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between different topics and real life.	a b c d e
B46 A lot of our teachers are very good at showing us how to do the exercises or homework they set.	a b c d e
B47 Most of our teachers make it clear in advance what we are going to learn and why we need to learn it.	a b c d e
B48 Too many teachers give us endless facts and details.	a b c d e
B49 Too many teachers wander off the point so we can't follow them.	a b c d e
B50 Teachers generally expect us to do things exactly the way they tell us to.	a b c d e
B51 Most of our teachers are ready to give us more of their time when we need it.	a b c d e
B52 Nearly all our teachers are ready to give us help and advice about studying.	a b c d e
B53 Our teachers keep a close eye on what we have	

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done for homework.	a b c d e
B54 Most of the pupils in this class are ready to help each other with their work.	a b c d e
B55 Our school really tries to get the best out of all its pupils.	a b c d e
B56 Generally there is a lot of respect shown to the teachers.	a b c d e
B57 Most of us are here only because we have to be.	a b c d e
B58 We are given so much to learn, there is no time to think things out for ourselves.	a b c d e
B59 More teachers should use essay question rather than tests where you just choose an answer.	a b c d e
B60 Too many of our teachers are ready to blame the whole class when only a few people are to blame.	a b c d e
B61 Our teachers seem interested in what pupils have to say.	a b c d e

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B62 We get plenty of help from teachers ın how to set about our revision.	a b c d e
B63 Most of our teachers are good at showing how what we are learning helps us to understand the world around us.	a b c d e
B64 Most of our teachers are good at providing simple summaries of what we have to learn.	a b c d e
B65 Most of our teachers are good at encouraging even shy pupıls to join ın classroom dıscussions	a b c d e
B66 Not enough teachers us our own experıences to help us learn.	a b c d e
B67 Teachers too frequently jump from one point to another preventing us following what they're tryıng to say.	a b c d e
B68 Many of our teachers dictate notes or make us copy them from the board.	a b c d e
B69 A lot of our teachers are good at provıding sımple summarıes of what we have to learn.	a b c d e

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B70 Teachers here are always ready to listen to our problems.	a b c d e
B71 Most of our teachers make sure we put a lot of effort into our work.	a b c d e
B72 Pupils in this class often meet each other out of school.	a b c d e
B73 In our school we are actively encouraged to become involved with activities to support our local community.	a b c d e
B74 Most teachers here find it easy to control their classes.	a b c d e
B75 It's not much fun being a pupil in this class.	a b c d e
B76 We have too much homework, we often have to work late.	a b c d e
B77 Too few teachers test our understanding: they more interested in what we have memorized.	a b c d e
B78 More of our teachers should stand up for us	

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when things go wrong.	a b c d e
B79 Many of our teachers encourage us to think things out for ourselves in class.	a b c d e
B80 Out teachers are good at suggesting ways to use our study time more effectively.	a b c d e
B81 Many of our teachers show us to understand things better by asking the right questions.	a b c d e
B82 Most teachers here are good at providing clear descriptions which we can remember easily.	a b c d e
B83 Our teachers are mostly very good at organising lessons so there is little waste of time.	a b c d e
B84 Too few teachers provide enough opportunities to use our imagination in class.	a b c d e
B85 Too few teachers give us sufficiently detailed instructions about how we should learn things.	a b c d e
B86 A lot of our homework just involves doing exercises form text-books.	a b c d e

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B87 Many of our teachers get quite excited about of the ides they are telling us about. a b c d e

B88 Most of our teachers show that they are interested in us as individuals. a b c d e

B89 When we are asked to read or do something out of school, most of our teachers check that it has been done. a b c d e

B90 Pupils in this class enjoy opportunities for learning together. a b c d e

If you have any comments of your own on your feelings about school which we have not covered in our questions, please add them here.

Thank you for completing this questionnaire. We are very grateful.

APPENDIX 2A

LIST OF SCALES AND ITEMS

Part A - ABOUT ME AND MY SCHOOL.

Approaches to Learning.

(1) Deep Approach.

A2 I try to see the connections between ideas in one subject and those in another.

A20 I generally try to understand things even when they seem difficult at the beginning.

A38 I often ask myself questions about the things I hear in lessons or hear in books.

A56 I try to relate what I read to previous books.

A74 When I am trying to understand new ideas, I often try to see how they might apply in real life situations

(2) Surface Approach.

A3 I find I have to rely on memorising a good of what we have to learn.

A21 Often I find I have to read things with out having a chance to really understand them.

A39 I tend to read very little beyond what is required by the teacher.

A57 I prefer subjects in which the facts to learn are easy to see.

A75 I like to be told exactly what to do in the work we are given.

(3) Strategic Approach

A4 I am good at planning my study time effectively.

A22 If I do something badly, I try to find out what I've done wrong, so that I can do it better next time.

A40 If conditions are to right for me to study, I always try to do something to change it.

A58 I plan my working time carefully to make the best use of it.

A76 When I'm doing a peace of work, I try to see how to get the highest possible of marks on it.

Motivation.

(1) Interest in Schoolwork.

A14 I get so interested in some topics at school that I try to read more about them on my own.

A32 I often feel excited when a new topic is introduced.

A50 There are a lot of lessons which I find exciting and challenging.

A68 I don't mind working hard |if I learn something really worthwhile.

A86 I get very enthusiastic about some of my school work.

(2) Responsibility and Conscientiousness

A15 If I'm given something to do, I always try to do it as

well as possible.

A33 I always put a lot of effort into what we are asked to so ın school.

A51 I would rather be correct than left to do something wrong.

A69 When I don't do as well as I could at school, I feel ashamed of myself.

A87 I am ready to take responsibility for all my actions.

(3) Affiliation.

A13 I enjoy helpıng other pupils with their problems ın school.

A31 It makes me feel really good when my classmates see that I've done well.

A49 I enjoy talking over my work with friends in my class.

A85 I really enjoy discussing with teachers ideas about life in general.

Personality.

(1) Extraversion.

A10 When people ask me questions, I'm always ready wıth my reply.

A28 Other people seem to thınk I am a lively person.

A46 I can easıly get some life into a dull party.

A64 I lıke plenty of life and excıtement around me.

A82 I find it easy to make friends.

(2) Neuroticism

A11 I easily get annoyed with things.

A29 I seem to spend a lot of time worrying about what might happen in the future.

A47 I'm easily hurt if someone criticises me or my work.

A65 I often feel tired and miserable for no good reason.

A83 When things her me down, it takes me a long time to cheer up again.

(3) Inferiority Feelings.

A12 I often get discouraged at school.

A30 I find it very hard to talk in front of the class.

A48 There are lots of things about myself that I'd change if I could.

A66 I give in very easily, perhaps too easily.

A84 Most people are better liked than I am.

Learning Styles and Strategies.

(1) Skill in Learning.

A1 I find it easy to understand teachers instruction about work.

A19 I can usually pick out the important points in a lesson or in a book.

A37 I seem to be able to get my ideas over well enough.

A55 I seem to be good at explaining what we've learned.

A73 It's not often that I have difficulty in learning new topics.

(2) Disorganised Work Habits.

A5 It's difficult for me to organise my study time.

A23 I'm rather slow at starting my homework.

A41 If I'm interrupted, I find it difficult to get back to work.

A59 I am easily distracted from my homework.

A77 I never seem to have enough time to finish my work.

(3) Study Skills.

A6 I work out what I am going to put in an answer before hand.

A24 I find it easy to find information in a book.

A42 I think I'm good at making my own notes.

A60 I work out my own ways of remembering things.

A78 I'm quite good at revising even a whole terms work.

(4) Holist Style.

A7 In tackling a new topic or revising, I try to see each topic as a whole, before I start working on it.

A25 When I'm reading, the ideas produce vivid images which sometimes take on a life of their own.

A43 I like to play around with ideas of my own even if they don't get me very far.

A61 I suppose I'm a bit too ready to jump to conclusions.

A79 When I'm trying to remember something, I can often see or hear it in my mind.

(5) Serialist Style.

A8 I prefer to tackle each part of a topic or problem in order, working through it one step at a time.

A26 I prefer to stick to one approach to a problem until I' sure it won't work.

A44 When I'm explaining something, I usually try to give a lot of detail.

A62 I'm very cautious at accepting what I read without having thought it through first.

A80 When I'm learning, I like things to be clearly set out under headings or in lists.

Influence of Home and Peer group

(1) Parental Support.

A16 I enjoy talking to my parents about the things that happen in school.

A34 My parents are really happy when I do well at school, and that makes me feel good too.

A52 My parents are very ready to talk over anything at school that is worrying me.

A70 My parents are always helpful and encouraging about my school work.

A88 If I do well at school, my parents always show that they are pleased with me.

(2) Parental Control and Concern.

A17 My parents demand a lot of me and expect me to work

hard.

A35 In schoolwork my parents expect me to set high standards.

A53 My parents always take my school reports seriously.

A71 My parents try to make sure I can do my homework with out interruption.

A89 My parents expect me to find enough time to do my homework well.

(3) Peer Group Pressure.

A18 Most of my pals have little interest in schoolwork.

A36 I enjoy fooling around in class with my friends.

A54 It's important to me to keep in with my pals even if it means fooling around.

A72 It's very important to me to have the same sort of things as my pals.

A90 Being with my pals often makes me late for class.

APPENDIX 2B

LIST OF SCALES AND ITEMS

PART B - ABOUT MY SCHOOL.

School Ethos.

(1) School Irrelevance.

B3 This school doesn't seem to provide much knowledge which will be useful in later life.

B21 Most of what we learn here is unlikely to help us solve problems in real life.

B39 The work we do here is rather dull and boring.

B57 Most of us are here only because we have to be.

B75 It's not much fun being a pupil in this school.

(1) Social Climate.

B18 A lot of my classmates are friends of mine.

B36 Most of the pupils in this class get on well together

B54 Most of the pupils in this class are ready to help each other with their work.

B72 Pupils in this class often meet each other out of school.

B90 Pupils in this class enjoy opportunities for learning together.

(2) School Rules and Discipline.

B2 The rules in this school are generally sensible and

fair

B20 When new school rules are introduced they are generally followed.

B38 There is really rather little bad behaviour in this school.

B56 Generally there is a lot of respect show to the teachers.

B74 Most teachers here find it easy to control their classes.

(3) Teacher Enthusiasm.

B15 A lot of our teachers seem to enjoy working with us.

B33 Many of our teachers seem really pleased when they see they've helped us.

B51 Most of our teachers are ready to gives us extra time if we need it.

B69 A lot of our teachers really seem to enjoy what they are teaching us.

B87 Many of out teachers get quite excited about some of the ideas they are telling us about.

(4) Teacher Support.

B16 teachers here generally try hard to help all the pupils.

B34 Most teachers here make a real effort to understand difficulties pupils have with their work.

B52 Nearly all our teachers are ready to give us help

and advice about our studying.

B70 Teachers here are always ready to listen to our problems.

B88 Most of our teachers show that they are interested in us as individuals.

(5) Teacher Control.

B17 Our teachers set high standards in what they expect of us.

B35 Most of the teachers here make sure we pay attention to what they are saying.

B53 Our teachers keep a close eye on what we have done for homework.

B71 Most of our teachers make sure we put a lot of effort into our work in class.

B89 When we are asked to read or do something out of school, most of our teachers check that it has been done.

(6) Teaching Formality.

B14 There opportunities for discussion in class.

B32 Our teachers seem to spend a lot of the lesson talking without letting us join in.

B50 Teachers generally expect us to do things exactly the way they tell us to.

B68 Many of our teachers dictate notes or make us copy them from the board.

B86 A lot of our homework just involves doing exercises from the text-books.

(7) Teacher Criticism.

B6 Our teachers seem more ready to see our mistakes than what we have done well.

B24 We need more praise and encouragement from most of our of our teachers.

B42 When teachers criticise our work, too often they do it in a way which makes us feel bad.

B60 Too of our teachers are ready to blame the whole class when only a few pupils are at fault.

B78 More of our teachers should stand up for us when things go wrong.

Teachers and Teaching.

(1) Skill in Teaching - Relating.

B9 We are generally given enough time to understand the things we have to learn.

B27 Our teachers are generally good at explaining things to us.

B45 Our teachers generally help us to make links between different topics.

B63 Most of our teachers are good at showing how what we have learned are linked to everyday life.

B81 Many of our teachers are good at asking questions which make us think.

(2) Skill in Teaching - Simplifying.

B10 The work-sheets we are given are generally clear and helpful.

B28 The notes that most of our teachers give us are clear and useful.

B46 Our teachers are mostly good at making it clear what we have to do.

B64 Most of our teachers provide simple summaries to help us learn more easily.

B82 Most teachers here give us notes which make it easier for us to learn.

(3) Skill in Organising.

B11 Most of our teachers seem to be good at pitching the lessons at the right level for us.

B29 Most of our teachers present their lessons in a well organised way.

B47 Most of our teachers make it clear in advance what we are going to learn and why we need to learn it.

B83 Teachers here mostly manage to avoid wasting time in lessons.

(4) Study Skills Training.

B8 Our teachers explain to us how to go about studying.

B26 Our teachers show us how to find what we need to find in books.

B44 Our teachers often tell us how to plan our work.

B62 We get plenty of help from teachers in how to set about our revision.

B80 Our teachers help us to use our study time better.

(5) Holist Teaching Style.

B12 Not enough teachers use lively examples or stories in their lessons.

B30 Too many teachers stick closely to the subject without bringing things to life for us.

B48 Too many teachers give us endless facts and details.

B66 Not enough teachers use our own experiences to help us learn.

B84 Too few teachers provide enough opportunities to use our imagination in class.

(6) Serialist Teaching Style.

B13 Teachers use too many examples and prevent us getting on with the subject.

B31 Teachers too often make us use our own ideas before we're ready for it.

B49 Too many teachers wander off the point so we can't follow them.

B67 Teachers too often jump from one point to another preventing us form following what they are trying to say.

Tasks and Task Requirements

(1) Factual Assessment.

B5 We seem to have far too many tests just to see what we have remembered.

B23 It would be better if we had more tests in which we could give our own ideas.

B41 Too many teachers ask us questions in class just about facts.

B59 Too many teachers prevent us from showing what we really know.

B77 Too few teachers try to find out what we understand: they are too concerned about what we can remember.

(2) Freedom in Learning.

B7 We get a good deal of choice in the work we have to do here.

B25 We are often encouraged to make our own ideas.

B43 A lot of teachers encourage us to make use of our own ideas.

B61 Our teachers seem interested in what pupils have to say.

B79 Many of our teachers encourage us to think things out for ourselves.

(3) Workload.

B4 We are given far too much work to do in this school.

B22 We are expected to cover far too many topics in each subject.

B40 We don't seem to find enough time to finish all the work we are given.

B58 We are given so much to learn, there is no time to think things out for ourselves.

B76 We have so much homework, we often have to work late.

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