T1856

COLAISTE NAISIUNTA EALAINE IS DEARTHA

NATIONAL COLLEGE OF ART AND DESIGN

FACULTY OF EDUCATION

MIXED ABILITY IN THE CLASSROOM

A Thesis submitted to the Faculty of Education

in

Candidacy for the

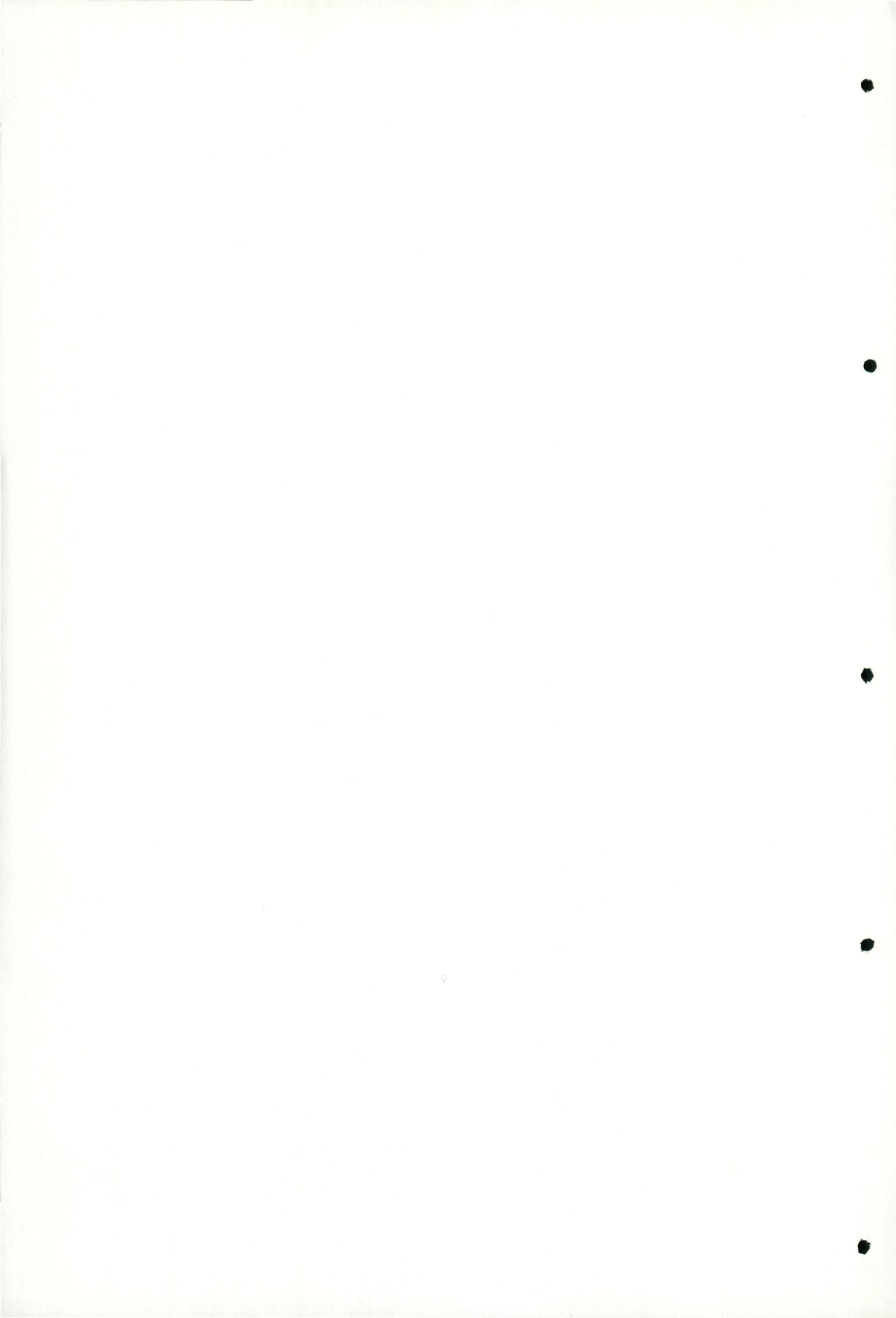DIPLOMA FOR ART AND DESIGN TEACHERS

by

Brian Heraty

June 1997

TABLE OF CONTENTS

LIST OF TABLES

INTRODUCTION

This dissertation is an investigation into mixed ability learning and teaching. As this study proceeded, it became clear that it is quite difficult to isolate a single aspect of education, and understand it fully, without also placing it in the context of the educational system as a whole. There are two distinct strands to this study. The first, and indeed the initial, interest was how pupils are "mixed" or placed in classes and the consequent effects. The second strand of this study relates to the idea of ability, or abilities, how these are defined, how they relate to the curriculum, and to the values which underpin the educational system.

The first question to be addressed in this dissertation is: What is mixed ability grouping? It is clearly a heterogeneous form of grouping and can be achieved in two ways: pupils may be placed in classes at random, perhaps alphabetically, or in some other arbitrary way; or, by forming parallel groups through first ascertaining the ability or attainment of the age group and then ensuring that each class has representative numbers across the range, children are then taught in these heterogeneous class groupings for all subjects.

This form of mixed ability grouping is used in Malahide Community School in First Year, while setting is introduced in later years, in English, Irish and Maths. However, this merely tells us how pupils are mixed and grouped but does not define "ability". Malahide Community School carries out ability tests for the purposes of arriving at mixed ability grouping. I will look at these tests to determine what "abilities" are being measured and what significance this may have for students. Only then can one get a clear understanding of which abilities are being mixed!

DESCRIPTION

Chapter 1 is a consideration of the literature available on mixed ability and the arguments for and against it, as a form of grouping. The role of the teacher is considered, as is the issue of subject suitability for mixed ability groupings. Finally, the Scottish education system is considered.

Chapter 2 offers a brief consideration of recent changes in the Irish education system, particularly in relation to the issue of mixed ability. Of certain relevance is the report by the ERSI "School Decisions: The Origins and Consequences of Selection and Streaming in Irish Post Primary Schools", 1987. In this study data from this report is compared with the 1996 ERSI publication "Education and Gender Equality".

Chapter 3 represents practical research undertaken in relation to mixed ability and its effects on pupils, teachers and Malahide Community School itself.

Chapter 4 summarises the findings of this research and looks at the future of mixed ability grouping in Ireland.

CHAPTER 1

A REVIEW OF LITERATURE

Types of Grouping

There are many ways of arranging pupils in classes. The four most commonly used in Ireland are:

Streaming:

The division of pupils into classes on the basis of general ability and/or attainment, the classes then remaining the same for all subjects.

Setting:

A whole or part of a year group is timetabled as a block, pupils are then divided on the basis of attainment within each subject.

Banding:

A year group is divided into a number of broad streams on the basis of attainment. This can result in a number of classes composed of students from each band. This is in effect a loose form of streaming.

Mixed ability:

Classes are formed covering the full ability range, roughly matching that found in the population of the school.

Mixed ability grouping is increasingly being adopted by second level schools in Ireland, but opinions vary as to its effectiveness. Proponents see mixed ability grouping as having great social, practical and educational benefits, while many schools stream because they believe strongly that it is in the interests of the students to do so. The two main arguments in favour of streaming are:

(a) that children vary in their ability and learn best in classes of children with similar ability

(b) that classes are more easily or better taught when they are homogeneous.

The Effects of Streaming

Hannon and Boyle in their 1987 study, noted more negative effects of stream-
ing: "(a) increased drop-out rates; (b) a lowering of the average attainment
levels of the total entry cohort; (c) a reduction in the proportion going on to
university."(1). While Hannon and Boyle argue that, in general, high achieve-
ments for a small élite were "paid for" by the very poor attainments of the
low achievers, they also suggest that what schools actually do with, or how
well they use, streaming or curricular differentiation practices is almost as
important as the choice of one form of streaming, or mixed ability, rather
than another. The goals and objectives actively pursued by schools and the
organisational ethos and management effectiveness of schools are also impor-
tant factors. They cite the example of one school where streaming was chosen
to maximise the achievement of the lower ability group. Maximum teaching
effort was directed to these pupils in the form of a much better
pupil/teacher ratio than other classes; the most effective teachers were allo-
cated to them; they received extra remedial attention and appropriate peda-
gogy was developed; including creative approaches to parents and
home/school liaison. The result over five years was that failure rates dimin-
ished and the whole ethos and effectiveness of the school improved.

Teaching Mixed Ability Classes

The main concern of schools that have adopted this approach is how to develop methods of teaching that are suitable for mixed ability classes. Whatever form of grouping is chosen, the philosophy, attitudes and responsiveness of the teacher are important: good classroom practice depends much more on the teacher than on the particular grouping adopted. A mixed ability class can be taught in a variety of ways, but good teaching will focus on the needs of the individual pupil and will not be based on the assumption that every member of the class will learn a topic at the same time or at the same rate.

In the Schools Council "Mixed Ability Teaching in Mathematics"(2), teachers of mixed ability classes are advised to:

(a) provide a common core for the full range of abilities;

(b) provide tasks which will stretch all pupils academically;

(c) provide material that will interest the full ability range;

(d) ensure that all students work hard;

(e) help students with a low level of basic skills;

(f) assess work at many different levels;

(g) monitor the progress of each pupil.

There are a large number of factors which are directly affected by mixed ability grouping. In a study by Reid, Clunier-Ross, Goacher and Vile, the advantages not related to any specific ability group for pupils in a mixed ability class as identified

by the teachers of these classes are listed:

Table 1
Pupils Advantages in a Mixed Ability Class

Nature of pupil advantage	Percentage of Teachers (N=403)
Labelling avoided	36
Personal and social development fostered	33
Classroom climate improved	31
Improved motivation	22
Individual needs more effectively met	17
Improved behaviour	14
Improved attainment	13
Improved opportunities	12
"Real world" reflected	8
Transition to Secondary school eased	6
General advantages	14

The same teacher may be included in more than one category.

Source: Mixed Ability Teaching - Problems and Possibilities, Reid, Clunies-Ross, Goacher & Vile, Chapter 5, Page 70.

They also listed the advantages for the teacher in a mixed ability class as identified by the teacher:

Table 2

Teachers' Advantages in a Mixed Ability Class

Nature of Teacher advantage	Percentage of Teachers (N=403)
Work satisfaction	35
Behavioural problems decreased	29
Pupil/teacher interaction improved	28
Teaching skills developed	15
New interest in subject aroused	8
Labelling of teachers avoided	5
Teacher/teacher interaction improved	5

The same teacher may be included in more than one category.

Source: Mixed Ability Teaching - Problems and Possibilities, Reid, Clunies-Ross, Goacher & Vile, Chapter 5, Page 71.

Their studies also show that the benefits in terms of improved motivation, attainment and opportunity were significantly greater for those pupils who were classified as being "less able".

Teachers' perceptions of the difficulties in teaching mixed ability classes are detailed below:

Table 3

Teachers' Difficulties in a Mixed Ability Class

Nature of Teacher difficulty	Percentage of Teachers (N=403)
Meeting pupils needs	39
Increased preparation	32
Increased need for resources	24
Demands on teacher expertise	18
Teacher stress	14
Pacing work	11
Assessment	10
Classroom control	8
Teaching subject-related skills	6

The same teacher may be included in more than one category.

Source: Mixed Ability Teaching - Problems and Possibilities,
Reid, Clunies-Ross, Goacher & Vile, Chapter 5, Page 87.

Subject Differences:

456 teachers were asked the question "Do you consider your subject lends itself to a mixed ability approach?"

Table 4

Subject Suitability to Mixed Ability Teaching

Subjects	Suitable	Suitable in some respects	Not suitable
	(%)	(%)	(%)
Technical studies	35	46	19
Non-integrated science	36	50	14
Integrated science	38	39	23
P.E.	70	19	11
Music	27	46	27
Maths	14	39	47
Language studies	11	33	55
Non-integrated humanities	57	35	8
Integrated humanities	92	8	0
Integrated humanities with English	100	0	0
English	61	36	3
Domestic science	21	71	8
Commerce	14	86	0
Aesthetic subjects	79	13	8

Source: Mixed Ability Teaching - Problems and Possibilities, Reid, Clunies-Ross, Goacher & Vile, Chapter 6, Page 98.

Aesthetic Studies

Approximately four-fifths of the staff who taught Art considered their subject suitable for a mixed ability approach. Further exploration revealed a concept fundamental to the teachers of aesthetic subjects, which had strongly influenced responses; the majority of Art teachers did not think that ability, perceived to be of an academic nature, was generally reflected in a pupil's artistic aptitude. Frequent reference was made to the fact that the development of an individual's aptitude was a central objective of Art teaching. In Art, there are no set answers. Pupils tend to be assessed on what stage they have reached, rather than on what they have in their heads. Several teachers in the study emphasised the importance of social interaction in the classroom, and the fact that pupils were free to sit and move where they wished, learning from each other as well as being guided by the teacher.

Art Teachers considered the structure of each lesson to be important, for if a topic were flexible and instructions were simple, all could embark on the task, leaving the teacher free to assist with specific problems.

Mixed Ability Classes and the Role of the Teacher

The move towards mixed ability grouping implies a move towards equality and the teacher's role must change accordingly. In a situation where learning is being individualised, where all pupils are not pursuing the same work in competition with each other, but pursuing their own paths to learning, the teacher must accept responsibility for the educational advancement of all his pupils.

This leads to increased responsibility on the teacher for decisions about the content of education. In a mixed ability grouping the teacher must be prepared to make decisions concerning what is appropriate for individual pupils.

A third factor which teachers will encounter in mixed ability teaching is that there will be far greater informality than in a classroom where the teachers main offering is the formal lesson. This is a more demanding situation for a teacher.

Problems with Particular Subjects

Many teachers feel that some subjects are unsuited to mixed ability teaching. According to A.V. Kelly,

> ... In particular, this kind of assertion is made about the teaching of foreign languages, maths and science and many teachers who specialise in these subjects will claim that any attempts to approach the teaching of their subject via individual assignments would be sure to lead to disaster (3).

And, in the Reid, Clunier-Ross, Goacher and Viles study, the individual subject differences are highlighted. They found that, along with problems with maths, science and, in particular, foreign languages,

> ... The absence of clear-cut criteria for correctness and the acceptability of a range of differing responses other than a single right answer appear as key factors affecting the perceived suitability of a subject for mixed ability teaching (4).

Social Change

We live in a rapidly changing society and many of the skills that may be learned in school may be obsolete in industry by the time a student enters the work-force. What is needed is a greater emphasis to be placed on the acquisition of understanding as opposed to the inculcation of knowledge.

The Scottish Experience

Mixed ability teaching has been a feature of comprehensive schools in the UK for many years, and studies show that it does have a positive effect on both attainment and equality. These effects have been less noticeable in Wales and England, because of a tendency to cream students.

Another factor in the success of mixed ability teaching in Scotland is the organisation and management of the system. Mixed ability is not just about allocation of pupils to a particular class, but it can only be properly implemented with well-trained teachers who have an understanding of the challenges involved and are properly prepared for them. A key feature of this system is the idea of Experiential Learning. This is a pupil-centred approach to learning. This approach sees the pupil as having increasing responsibility for his/her own learning. Pupils are the main resource.

Education has traditionally focused on the left side of the brain, which deals with rational processes, logical thinking, problem solving etc. This neglects the right hemisphere which deals with creative and imaginative thinking and emotional and intuitive processes.

According to Vincent Carey, there are four main components to Experiential Learning (5):

1. The learning experience – usually a practical activity related to the lesson purpose and often with a knowledge component;

2. Reflection or processing – what have we done? Why? How did it affect thoughts and feelings? What is the learning?

3. Consolidation and reinforcement – follow up exercises, action plans, sharing learning with others; and

4. Practical application – trying out new learning and skills in real situations.

One way of implementing an active experimental approach in the classroom is through group work. Carey suggests the following advantages and disadvantages:

Advantages of group work:

- increases pupils' perceptions of themselves and others;
- promotes co-operation rather than competition;
- provides opportunities for group members and teachers to recognise and value individual skills and self-esteem;
- enables pupils to get to know each other better and extend their relationships outside their circle of friends;
- promotes aural skills and draws out quieter, more shy pupils;
- facilitates dealing with more sensitive areas - e.g. death and bereavement, gender, etc.;
- appears to promote tolerance and understanding of individuals and their needs;

- helps students develop skills of leadership, delegation, time management, and taking responsibility;

- provides opportunities for pupils to care for, and support, each other;

- encourages motivation;

- allows everyone to take part;

- builds self-confidence as pupils' communication, and other social skills, increase;

- takes pressure off individuals;

- enables pupils to learn how to make choices and decisions within the group situation;

- frees the teacher to observe and monitor classroom interactions and the way pupils behave.

Effective group work requires careful planning and initially pupils who are unused to working this way may encounter problems (6) such as:

- be noisy and appear to be without direction;

- be slow to start;

- result in leadership problems and disagreements among pupils;

- frustrate brighter pupils who are unable to work at their own pace;

- provide an excuse for opting out;

- provide a forum for endless anecdotes;

- be quite threatening for nervous timid pupils;

- result in gender/role stereotyping;

- allow stronger pupils to dominate weaker ones;

- be easily disrupted by non-co-operative, unwilling pupils.

Academic results in Scotland have been steadily improving over the past 10 years. In the latest Scottish Office report:

Table 5

Trends in Second Level Results in Scotland

% School leavers with:	1985-86	1994-95
NO SCE QUALIFICATION	24%	8%
5+ Standard grades 1-3	41%	54%
3+ Higher grades A-C	21%	29%
5+ Higher grades A-C	11%	17%

Source: Achievement for All - A Report on Selection within Schools by HM Inspectors of Schools, the Scottish Office, Chapter 1, Page 5.

Streaming is now rarely found in Scotland as it does not accord with a number of key principles on which the educational system is based.

Two recommendations of the Scottish Office report indicate a slight shift in recent policy:

"5B In secondary schools much greater use should be made of attainment groups in all subjects." (7);

and

"All schools should promote direct teaching as the principal role of class teachers." (8).

The Report also suggests broad based setting from first year on, in some subjects, and suggests that setting begin in primary school. Yet, when it lists the Features of Setting as an organisational system, there are four separate references to problems with pupil self-esteem mentioned. It is felt that this system will be more efficient, in terms of results overall, but obviously be a step backwards for equality in education.

The emphasis on direct teaching is an indication of a shift away from pupil centred learning. However, all this should be seen in the light of the fact that many comprehensives in Wales and the UK have not got a very good reputation and reports such as this may have a political bias or motive.

FOOTNOTES CHAPTER

1. Damian F. Hannan and Maura Boyle, Schooling Decisions: The Origins and Consequences of Selection and Streaming in Irish Post Primary Schools, ESRI, 1987, p. 15.

2. Schools Council of London, Mixed Ability Teaching in Mathematics, Evans/Metheun Educational, 1977, p. 17.

3. A. V. Kelly, Mixed Ability Grouping, Theory and Practice, Harper and Row, 1975, p. 71.

4. M. Reid, L. Clunies-Ross, B. Goacher, C. Vile, Mixed Ability Teaching - Problems and Possibilities, NFER NELSON, 1981, p.141.

5. Vincent Carey, "Teaching and Learning", p. 15.

6. Ibid., p. 16.

7. The Scottish Office of HM Inspectors of Schools, Achievement for All - A Report on Selection Within Schools, 1986, p. 33.

8. Ibid.

CHAPTER 2

THE IRISH EDUCATIONAL SYSTEM

Brief Background

Following the establishment of the Irish Free State in 1922, the mode of state funding was altered to capitation grants for pupils, in "recognised schools" and "incremental salaries" for "recognised" secondary school teachers. However, the schools continued as private denominational institutions which were managed largely independent of state control.

It was not until 1964 that the first State Grant for Capital Expenditure in a secondary school was made available. However, the Catholic Church in Ireland remained opposed to state encroachment into secondary education. The first comprehensive school opened in 1966 and, significantly, this was a result of Government policy rather than a response to any particular demand. The early comprehensive schools were influenced by developments in Britain, but also by a growing awareness of the changing nature of society. There was a need for more technical subjects and, more significantly, an awareness of the need for equality of educational opportunity.

Later in 1966 the Minister for Education, Donogh O'Malley, announced free post primary education would be made available to all from 1967 onwards. This led to an even greater bulge in the secondary school population, resulting in many so-called "temporary" pre-fabricated classrooms, and pupils of a wider range of ability and social background, in more crowded classrooms.

In 1970 the Government announced the development of community schools. These were a development on the comprehensive system. These schools would provide free schooling , of a comprehensive nature, to all in the particular catchment area, without pupil selection procedures. This was seen as a further step towards equality of educational opportunity.

It was during this period that the traditional secondary schools in Ireland began to move, if only very slowly, away from the dominant emphasis on academic subjects, and an authoritarian and didactic approach. Teachers now needed new skills in motivating and helping pupils of varying ability to master the evolving curriculum.

Streaming in Irish Schools

Streaming is a word used to describe the organisation of classes on the basis of assessed 'ability' or performance of pupils in a hierarchy of homogeneous ability classes. Grouping by ability occurs because of the belief that it leads to better outcomes for most students, particularly those at the extremes. However, the ERSI Report of 1987 on streaming, etc., concludes that "streaming is not a technical response to a problem of mixed ability but an institutional or 'political' response of the authority who run a particular school". (1). The research shows clearly that "The main outcome of rigid pupil and curricular differentiation is much greater polarisation in educational attainments than occurs in more mixed ability schools, without any compensating average attainment advantage." (2). In simpler terms, the high achievers do better in streamed schools, but only at the expense of the weaker pupils.

Many Irish schools create distinctions amongst categories of their pupils by measuring their presumed educable capabilities, by assigning them to different streams or bands, and by making clear distinctions amongst these categories of pupils in the type of curriculum and institutional process applied to them. In making these distinctions, school decision-makers do have objectives, although many of these are more clearly implied in school practice rather than being expressions of a conscious policy. Many studies have shown that such school practices have substantial effects on the educational performance and subsequent occupational achievement of individuals who are placed in different streams. These practices operate in many cases to transmit and even amplify social class and related inequality from generation to generation. Yet in many cases, school decision-makers appear not to see or be concerned about these consequences.

The ERSI Report of 1987 (3) suggests 5 major reasons as to why this occurs:

1. Lack of research on second level schools in Ireland;

2. The schooling processes and their educational consequences are not publicly visible, so parents and pupils who suffer most in the current system have very little awareness of the system and how to register dissatisfaction;

3. The State does not accept responsibility for the way schools are operated. State policy had, at an earlier stage, implicitly colluded in the development of "selective" schooling, by expanding the vocational sector to take up the pupils left over by the selective provision of secondary schools. Only in recent times, with the emergence of by the development comprehensive/community schools in newly-developing urban areas, has the State tried to provide effective local comprehensive schooling. The more vigorous programme to develop comprehensive schools, pursued in the early 70s, was so successfully fought off by local vested interests that the State effectively withdrew its policy;

4. By and large, the ideological climate and class forces within Ireland are such that the pursuit of egalitarian citizenship rights has no active political priority or urgency;

5. The State's interest in education is influenced greatly by industry and so it promotes skill acquisition and technical knowledge as important areas of educational policy.

It would appear that not only is the choice of class grouping important, but how this grouping practice is implemented is of equal importance.

According to the ERSI Report "Co-education and Gender Equality", 1996, we can see that Irish schools have been gradually moving away from streaming and, to a lesser extent, banding and moving towards mixed ability as an allocation system.

Table 6

Grouping Trends in Irish Second Level Schools

Proportion of schools which operate	1st Year		Junior Cert		Leaving Cert	
	1980/1	1993/4	1980/1	1993/4	1980/1	1993/4
	%	%	%	%	%	%
Mixed ability	40	56	27	37	49	62
Banding	20	17	21	17	17	10
Streaming	40	27	42	38	32	24
Gender-related differentiation	--	--	10	8	2	3
Total %	100	100	100	100	100	100
No	82	108	81	106	63	87

Source: ERSI Report, Co-education and Gender Equality, 1996, Chapter 5.1, P. 92

FOOTNOTES FOR CHAPTER 2

1. Damian F. Hannan and Maura Boyle, Schooling Decisions: The Origins and Consequences of Selection and Streaming in Irish Post Primary Schools, ESRI, 1987, p. 12.

2. Ibid, p. 13.

3. Ibid, pp. 162-164.

CHAPTER 3

MIXED ABILITY IN MALAHIDE COMMUNITY SCHOOL

Howard Gardner's Theory of Multiple Intelligences

This chapter represents a practical investigation into mixed ability teaching in Malahide Community School. This involved an investigation into what is meant by ability, the implications for teachers, and how the curriculum relates to pupils' abilities.

Howard Gardner's Theory of Multiple Intelligences is an excellent yardstick, not by which to judge a school, but it can give an insight into what a school is about, in terms of the abilities it values and promotes. Gardner explains that,

> ... It is a pluralistic view of mind, recognising many different and discrete facets of cognition, acknowledging that people have different cognitive strengths and contrasting cognitive styles. I would like to introduce the concept of the individual centred school that takes this multifaceted view of intelligence seriously. (1)

Gardner's research defined seven basic intelligences which he believed were all of equal importance (2):

1. Linguistic intelligence

   the kind of ability exhibited in its fullest form perhaps, by poets;

2. Logical mathematical intelligence

   this includes scientific ability as well as logical and mathematical ability;

3. Spatial intelligence

    the ability to form a mental model of a spatial world and manoeuvre and operate using that model. Sailors, engineers, surgeons, sculptors and painters, to name a few examples, all have highly developed spatial intelligence;

4. Musical intelligence

    Leonard Bernstein had lots of it, Mozart presumably had even more;

5. Bodily kinaesthetic intelligence

    is the ability to solve problems or to fashion products using ones whole body, or parts of the body. Dancers, athletes, surgeons and craftspeople all exhibit highly developed bodily kinaesthetic intelligence;

6. Interpersonal intelligence

    the ability to understand other people, successful salespeople, politicians, teachers, clinicians, and religious leaders are all likely to be individuals with high levels of interpersonal intelligence;

7. Intrapersonal intelligence

    a correlative ability, turned inward. It is a capacity to form an accurate, veridical model of oneself and to be able to use that model to operate effectively in life.

Gardner's view was that the purpose of school should be to develop intelligences and to help people reach vocational and avocational goals that are appropriate to their particular spectrum of intelligence.

School Ethos and the Curriculum

"Students should find in our school an environment which promotes 'all types of abilities and talents'." (3)

"The diversity of our school curriculum should enable students to develop the skills necessary for a satisfying personal, social and working life, enabling them to be responsible and adaptable adults." (4)

These statement may, or may not, be true. If we take the first statement and, I stress that this is not a scientific analysis, allocate activities on offer in the school to Gardner's theory of 7 Intelligences, we begin to see the nature of what is happening. Subjects are allocated purely on what is considered by me at this stage to be their dominant intelligence factor, in order to get an approximate view of the abilities being promoted.

Table 7

Gardner's 7 Intelligences and the Leaving Certificate Curriculum

Gardner's 7 Intelligences	Leaving Certificate Curriculum
Linguistic	English, Irish, History, French, German
Mathematical	Maths, Geography, Biology, Chemistry, Physics, Accounting, Business Organisation, Economics, Applied maths. Technical drawing construction Building construction, Engineering Technical drawing engineering
Spatial	Art
Musical	Music
Bodily Kinaesthetic	
Interpersonal	
Intrapersonal	

Table 8

Gardner's 7 Intelligences and Extra-curricular Activities

Linguistic	Visits of writers, student exchanges
Mathematical	Chess, computer studies
Spatial	Orienteering
Musical	School performances of musicals
Bodily kinaesthetic	16 different sports, Physical education, Typing
Interpersonal	Quiz teams, theatre, film trips, debates, public speaking, visits of politicians
Intrapersonal	Religious education, Charity work

By allocating activities to Gardner's intelligence bands, students will find, in Malahide Community School, an environment which promotes all types of abilities and talents.

However, to state that the diversity of the school curriculum should enable students to develop the skills necessary for a satisfying personal, social and working life, enabling them to become responsible and adaptable adults, is contradicted by the preceding breakdown of activities into their respective intelligence bands.

The clear conclusion is that the Curriculum (as in the Leaving Certificate curriculum, in the first chart, is heavily weighted in favour of 2 forms of intelligence, Linguistic and Mathematical. A question mark could be placed beside Art, as it is only recognised as a Leaving Certificate subject by the Universities for the purposes of matriculation, because they successfully insisted on a 37.5% loading on the Art History aspect of the paper.

The fact that the school offers such a wide range of additional activities is an admission that the curriculum is inadequate and unbalanced. The lack of balance in the curriculum is further accentuated by the time allocated to different subjects. According to Kathleen Lynch,

> ...The external control systems of the schools productive sub system, viz, the Department of Education, the Employer sector and the third level education sector (especially and increasingly its technological wing), currently ensure that intellectual learning is the primary focus of the second level system: in particular they foster intellectual learning in the technological, commercial and scientific spheres. (5)

So most of a pupil's school day is therefore spent in the pursuit of intellectual knowledge in preparation for competitive exams.

Tests

In Malahide Community School, as I have mentioned before, pupils in first year are mixed on the basis of results in ability tests in order to achieve an even mix of ability levels in all first year classes. The most significant part of these assessments are the use of AH2/3 tests. These test verbal, numerical and perceptual skills and pupils are given an overall grade between A and E.

Table 9

AH3 Sample questions

1. Verbal example

Circular is to **shape** as **small** is to					
size	round	weight	oval	square	large
1	2	3	4	5	6

2. Numerical example

		4		0	3
Multiply the last two figures together and add the result to the first figure.					
0	12	4	16	7	8
A	B	C	D	E	F

3. Perceptual example

The two top figures are alike in some way. Only one of the six

lower figures is **unlike** the top two. Which is it?

Y   L

H   V   O   W   K   F

Source: AH3 Question Book, A.W. Heim, K.P. Watts and V. Simmonds, NFER-NELSON, 1975, pp. 4, 15 and 17.

The question arises as to whether these measurements are an accurate assessment of actual academic ability, and in particular, do they have any relevance to art. To learn a little more about this, it was decided first, to allocate a grade to all pupils' portfolios prior to the test. Students were then given a drawing test called the "Goodenough Harris Drawing Test". The purpose of the test is to measure intellectual maturity, which Harris defines as

> ...the ability to form concepts of an abstract character. The abilities involved in forming these concepts are: a) perception (discrimination of likenesses and differences); b) abstraction (classification of objects); and c) generalisation (assigning newly experienced objects to the correct class). (6).

The Goodenough Harris Draw-A-Man Test

Pupils were given an A2 sheet of paper and given the following instructions:

> "Draw a man or a woman on your sheet of paper. The head of the figure should be close to the top of the page and the feet close to the bottom. Include as much detail as you can about the figure and try to draw the figure's proportions correctly. You have 15 minutes, try to do the best drawing you can complete in the amount of time."

The scoring system of the Goodenough Harris Draw-A-Man test were then used to mark each drawing. The following is the marking system used.
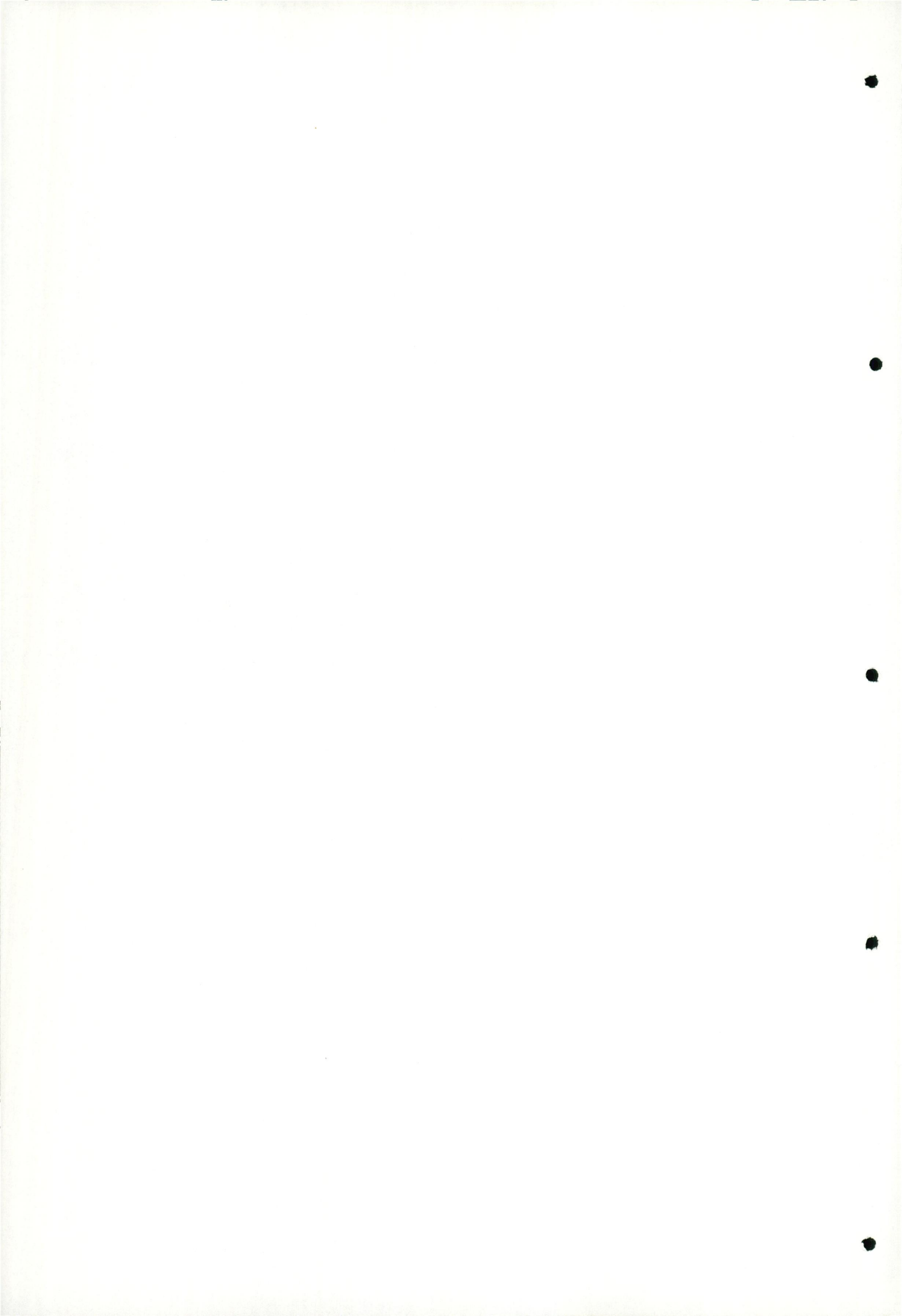
Table 10

Short Scoring Guide for Draw-A-Man Test

1. Head present
2. Neck present
3. Neck, two dimensions
4. Eyes Present
5. Eye detail: brow or lashes
6. Eye detail: pupil
7. Eye detail: proportion
8. Eye detail: glance
9. Nose present
10. Nose, two dimensions
11. Mouth present
12. Lips, two dimensions
13. Both nose and lips in two dimensions
14. Both chin and forehead shown
15. Projection of chin shown; chin clearly differentiated from lower lip
16. Line of jaw indicated
17. Bridge of nose
18. Hair I
19. Hair II
22. Ears present
23. Ears present: proportion and position

24. Fingers present
25. Correct number of fingers shown
26. Detail of fingers correct
27. Opposition of thumb shown
28. Hands present
29. Wrist or ankle shown
30. Arms present
31. Shoulders I
34. Elbow joint shown
35. Legs present
37. Hip II
38. Knee joint shown
39. Feet I: any indication
40. Feet II: proportion
41. Feet III: heel
42. Feet IV: perspective
43. Feet V: detail
44. Attachment of arms and legs I
46. Trunk present
47. Trunk in proportion, two dimensions
48. Proportion: head I
49. Proportion: head II

50. Proportion: face
51. Proportion: arms I
52. Proportion arms II
53. Proportion: legs
54. Proportion: limbs in two dimensions
55. Clothing I
60. Profile I
62. Full face
63. Motor coordination: lines
66. Directed lines and form: head outline
67. Directed lines and form: trunk outline
68. Directed lines and form: arms and legs
69. Directed lines and form: facial features
70. "sketching" technique
71. "Modelling" technique
72. Arm movement
73 Leg movement

Table 11

Results and Comparisons - 1st year Art

Pupil	Portfolio Grade	Goodenough Harris Test	DH2/3 (overall)	DH2/3 (perceptual)
1	C+	C	C	D
2	B	B	A	A
3	C	B	D	D
4	D	D	A	A
5	C	A	A	A
6	B	B	C	C
7	D	D+	C	C
8	A	A	B	B
9	C+	A-	B	C
10	B	D+	B	B
11	D	D-	E	D
12	B-	B+	C	B
13	B	B+	B	B
14	C	C	C	C
15	B+	A-	A	A
16	B	C	C	D
17	B	B	A	A
18	A	A	A	A
19	D+	C-	C	D
20	C-	C+	C	D
21	D+	C	B	C
22	B-	B	C	C
23	B	B+	D	C
24	C+	C-	B	C
25	C	C	A	C

Analysis of Results

Goodenough-Harris Test compared to Portfolio Assessment:

Same grade in both: 17 pupils or 68%

Within 1 grade: 5 pupils or 20%

Within 2 grades: 3 pupils or 12%

DH2/3 Perceptual Test compared to Portfolio Assessment:

Same grade in both 10 pupils or 40%

Within 1 grade: 12 pupils or 48%

Within 2 grades: 2 pupils or 8%

Within 3 grades: 1 pupil or 4%

DH2/3 Overall grade compared to Portfolio Assessment:

Same grade in both: 6 pupils or 24%

Within 1 grade: 14 pupils or 56%

Within 2 grades: 4 pupils or 16%

Within 3 grades: 1 pupil or 4%

Table 12

Results and Comparisons - 1996 Junior Certificate Year

Sex	Pupil	J.C. Result*	DH2/3 Perceptual Test	DH2/3 Overall score	Reading age at entry**
F	1	A	A	A	-
F	2	B	C	C	-2
F	3	C	B	A	-
M	4	PASS (A)	C	C	-2
M	5	A	A	A	+2
M	6	PASS (B)	C	C	-1
F	7	B	B	B	-
M	8	A	A	A	+3
F	9	A	A	A	+2
M	10	PASS (C)	D	C	-1
M	11	B	B	B	-
M	12	A	A	A	-
M	13	PASS (B)	C	C	-2
M	14	A	B	B	-2
F	15	A	A	A	+2
M	16	A	D	D	-2
F	17	B	C	B	+2
F	18	A	C	B	-
M	19	PASS (B)	D	D	-1
F	20	B	A	A	+3
M	21	B	C	C	-
M	22	B	D	D	-3
M	23	B	D	D	-1
M	24	A	B	C	-2
F	25	C	C	D	-

* Pass honour will be taken as a D in honours for simplicity.

** To mean the difference between a student's actual age

and his tested reading age.

Analysis of Results

Junior Certificate compared to DH2/3 Perceptual test:

Same grade in both: 11 pupils or 44%

Within 1 grade: 10 pupils or 40%

Within 2 grades: 3 pupils or 12%

Within 3 grades: 1 pupil or 4%

Junior Certificate compared to DH2/3 Overall grade:

Same grade in both 10 pupils or 40%

Within 1 grade 10 pupils or 40%

Within 2 grades 4 pupils or 16%

Within 3 grades 1 pupil or 4%

Reading Age

1. Results of pupils with a positive reading age at entry

Pupil 5	+2 years	(M)	A
Pupil 8	+3 years	(M)	A
Pupil 9	+2 years	(F)	A
Pupil 15	+2 years	(F)	A
Pupil 17	+2 years	(F)	B
Pupil 20	+3 years	(F)	B

2. Tested reading age of pupils who took pass paper

Pupil 4	-2 years	(M)	P
Pupil 6	-1 year	(M)	P
Pupil 10	-1 year	(M)	P
Pupil 13	-2 years	(M)	P
Pupil 19	-1 year	(M)	P

3. Remainder of pupils with negative reading age result

Pupil 2	-2 years	(F)	B
Pupil 14	-2 years	(M)	A
Pupil 16	-2 years	(M)	A
Pupil 22	-3 years	(M)	B
Pupil 23	-1 year	(M)	B
Pupil 24	-2 years	(M)	A

Findings

- The Goodenough-Harris drawing test appears to be a useful indicator of ability in Art. 88% of pupils scored within one grade of their portfolio assessment.

- The DH2/3 test of ability appears a good indicator of ability in Art. However, the DH2/3 Perceptual test is a slightly more accurate indicator. In all cases, between 80 to 88% of pupils scored within 1 grade of their corresponding Art grade.

By chance, I looked at reading age scores, and noted some interesting results: At entry to 2nd level, all the pupils are given a reading test which is then compared to their age. For example, a child of 12 may have a reading age of 14 (+2) or 11 (-1).

- All pupils with a positive reading age at entry to 2nd level scored highly at the Junior Cert.

- 9 out of 10 pupils with a negative reading age were male (perhaps indicating a later maturity)

- All pupils who took pass level Art began 1st Year with a negative reading age score

The reading age scores, and the results which correlate with them are a small sample, but indicate an area where further research may be worthwhile

• Finally, while these tests appear good indicators of ability, there are sufficient exceptions to the rule to indicate that it would not be fair to stream pupils of the basis of assessments at such an early age. Several pupils showed significant improvement on their measured ability, for example pupils 24 and 25 in the Junior Certificate class of 96 both score D in their overall ability test and D in their perceptual test, but both went on to attain B in the honours Art paper.

AH2/3 - Further Analysis

The total number of pupils who completed the Ah2/3 Tests in Malahide Community School, in the years 1993 and 1996 combined, is 325. A study of the scores in the three components of this test was carried out to ascertain if there was any correlation between pupils scores in the separate parts of the test.

Results

25%	Same grade in all	e.g.	A A A
57%	Within 2 grade ranges	e.g.	A A B
17%	Within 3 grade ranges	e.g.	A B C
1%	Within 4 grade ranges	e.g.	A B D
0%	Within 5 grade ranges	e.g.	A B E

These grades are for three quite different abilities; i.e. numerical, verbal and perceptual, and yet there is a very high correlation between the scores.

Therefore, the practice of grading pupils on an overall basis of A to E is valid. Pupils' scores in Art do correlate well with these grades, and the school also finds that these grades correlate well for most pupils with academic grades in the following years.

Art Teachers' Views

The following questionnaire was sent out to twenty Art teachers in second level schools in the greater Dublin area. Questions are grouped in 4 categories and teachers were simply asked to indicate whether they agreed with the statement or not, beginning with the phrase "In the mixed ability class (as compared to a streamed class), do you think:"

Table 13
Art Teachers Questionnaire on Mixed Ability

Question	Percentage of yes replies
A. Perceived pupil advantage	
1. Labelling is avoided	60
2. Personal and social development is fostered	90
3. Classroom climate is improved	90
4. Motivation is improved	90
5. Individual needs more effectively met	60
6. Behaviour is improved	100
7. Attainment is improved	60
8. Opportunities are greater	90
9. "Real world" is reflected	90
10. Transition to secondary school is eased	70
B. Perceived teacher advantage	
11. Mixed ability grouping is generally advantageous	90
12. It is more satisfying to teach	100
13. Behaviour problems decrease	60
14. Pupil/teacher interaction is improved	70
15. Teaching skills are developed	100
16. You have greater interest in your subject	70
17. Labelling of teachers is avoided	90
18. Teacher/teacher interaction is improved	60

C. Perceived teacher difficulties

19. You have difficulty meeting pupil needs	30
20. There is increased preparation	60
21. There is increased need for resources	70
22. There is greater demand on teacher expertise	70
23. It is more stressful to teach	40
24. It is difficult to pace work	70
25. Assessment is more difficult	20
26. Classroom control is more difficult	0
27. Teaching subject-related skills is more difficult	10

D. General

28. Do you teach mixed ability classes?	100
29. Do you think art is suited to mixed ability teaching?	100
30. Do "weaker" pupils benefit from the presence of brighter pupils?	100
31. Do "brighter" pupils lose out or are they held back by slower or less able pupils?	70
32. On balance, do you think the benefit to weaker pupils (if any) outweighs the negative impact (if any) on the brighter pupils?	90
33. Do you find pupils create their own streams with the class, based on:	
a) Gender	40
b) Ability	60
c) Perceived socio-economic status	20
34. Would you rather teach streamed classes?	20
35. Do you feel you are adequately trained/prepared for mixed ability teaching?	100
36. Do you feel it would be useful to receive some form of specific training to enhance your understanding and performance in a mixed ability class?	90
37. Do you allocate different tasks to different pupils according to their ability?	100

Any conclusions drawn from such a small sample group of Art teachers can only be tentative, and I have therefore decided to highlight only those areas where teachers indicated a significant level of agreement.

All Art teachers surveyed:

- taught in mixed ability classes;

- believed Art was suited to mixed ability teaching;

- believed mixed ability grouping had a positive effect on behaviour;

- found it a satisfying way to teach;

- found that it helped develop their teaching skills;

- felt that "weaker" pupils did benefit from the presence of brighter pupils;

- felt adequately trained for teaching mixed ability classes;

- allocated different tasks to pupils, according to their ability.

Very few teachers surveyed:

- felt they had difficulty meeting pupils' needs;

- expressed difficulty in assessing work;

- agreed that teaching subject related skills was more difficult.

No teachers agreed that classroom control was more difficult in a mixed ability class.

Mixed Ability in Practice in Malahide Community School

Mixed Ability was introduced as the main form of grouping in Malahide at about the same time as the new Junior Certificate exam was introduced and, as a result, any statistical analysis of results would be inconclusive. However, the actual overall results at Leaving Certificate have remained consistently good.

On entry to the school, pupils are tested in Irish, reading and the DH2/3 tests of verbal, numerical and perceptual skills. Pupils are allocated an overall grade from A to E. and this assessment is cross-checked with a verbal reference from the primary school. Parents and pupils may have access to their results on request.

Pupils are also given tests in 5th year. These "D.A.T.S" tests measure verbal ability, numerical ability, abstract reasoning, spatial ability, mechanical reasoning.

The response from parents to the mixed ability system has been mostly positive, although Malahide still lose a lot of pupils from their catchment area to schools which are "perceived" to be more academically orientated. There is also a higher proportion of boys than girls in Malahide in recent years; this may be a result of recent, well publicised reports, that girls perform better in single sex schools.

Within the school, Irish, English and Maths are the only subjects where setting takes place (from 2nd year onwards). The teachers of these subjects expressed deep reservations about applying mixed ability methods to their subject. Many of the staff have difficulties with mixed ability teaching and would rather teach streamed classes. However, the "high content" nature of courses is one suggested reason for this problem. Teachers are teaching mixed ability classes in more or less the same way as streamed. In Scotland, the structure of subjects has been changed to make them more experiential and thus suited to mixed ability teaching.

Results in the school show that the proportion of pupils failing or scoring poorly in the Leaving Cert examination has reduced greatly. Last year only 2 pupils got less than 5 passes. However, the most significant aspect of mixed ability teaching in Malahide is that it has changed the atmosphere of the school. The behaviour problems associated with streaming have declined to a significant extent. With 6 classes in each year, with streaming, the bottom two classes had become ghettos. Pupils knew they were not expected to achieve and behaved accordingly. It was very unusual for any pupils from the bottom two classes to apply to 3rd level education. Now virtually all pupils apply to 3rd level. The school also has a lower level of pupils dropping out. However, they presently lose 5 or 6 pupils every year to private schools which focus solely on the Leaving Certificate points race.

Observations in the Classroom

In my 1st and 2nd year classes in Malahide Community School, pupils were found to stream themselves within the class. The most obvious was the way the pupils formed separate groups based on gender, dividing the class into neat halves. Within these streams, there were some obvious clusters of bright pupils and of weak pupils. Often the cluster of weak pupils would also create disturbances and generally misbehave, although this behaviour was greatly reduced by breaking up these groups. It was also clear that one student who was average in ability benefited greatly from joining a group of very bright student at their table. Conversely, among a group of boys I assumed to be all weak from their initial work, several emerged with reasonably good work when the group was broken up.

I found that pacing work was difficult when working a scheme of work with several stages over six to eight weeks. Several pupils would be ahead of the main group and several would be one or two stages behind. It was not always easy to find meaningful and relevant work for the fast workers to do when they finished early, and this required additional preparation. Conversely, when confronted with pupils who are struggling to keep up with the group, I needed to be inventive and resourceful in suggesting simpler, less demanding ways of accomplishing tasks. Some pupils in my groups were, I believe, in need of remedial teaching and had clear cognitive difficulties with certain tasks. However, I do believe that most of these teaching difficulties can be overcome with more teaching experience. I personally found teaching a mixed ability class to be satisfying and that it appeared to be generally more advantageous as a form of grouping.

FOOTNOTES FOR CHAPTER 3

1. Howard Gardner, Multiple Intelligences - The Theory and Practice, Basic Books, 1989, p. 2.

2. Ibid., p. 4.

3. Malahide Community School Prospectus, 1996, p.3.

4. Ibid., p. 4.

5. Kathleen Lynch, The Hidden Curriculum, The Falmer Press, East Sussex, 1989, p.43.

6. Jerome Sattlier, Assessment of Children's' Intelligence and Special Abilities, Allyn and Bacon Inc., 1974, p. 248.

CHAPTER 4

THE FUTURE OF MIXED ABILITY TEACHING AND LEARNING?

This study has looked at the different ways pupils are grouped in classes and, in particular, mixed ability grouping. The effects of mixed ability grouping in Malahide Community School and Scotland, where it is used extensively, show that it does have considerable merit as a grouping method and the effects are largely positive, particularly in relation to pupils' behaviour and self-esteem.

Mixed ability grouping is becoming more common in Irish schools and for it to work well, the Department of Education should study the Scottish system carefully. The Scottish system works because virtually all schools use mixed ability grouping, teachers are trained specifically in mixed ability teaching practices, and the way in which subjects are taught is more practical or experiential. This experiential aspect explains, to a large extent, why Art Teachers have a positive attitude to mixed ability teaching.

Looking at ability, it was found that the abilities being assessed in first year were numerical, verbal and perceptual. Most pupils were found to score roughly the same grade in each test, and that these tests also correlated well with later academic achievement. However, some pupils did show significant changes in later academic achievement relative to initial tested ability. These tests are an appropriate method for assessing ability because the Leaving Certificate Curriculum is presently heavily weighted in favour of verbal and numerical-type abilities.

However, Howard Gardner's Theory of Multiple Intelligences deserves further research, in particular as to how it may be used to help formulate a balanced curriculum, with a more pupil centred mix of abilities represented.

Education does not exist as a separate entity, but rather is a result of the sometimes contradictory forces in society. Different groups in society have different aims and objectives. Governments may have political or economic objectives. At the National Education Convention,

> … Many reactions to the Green Paper were critical of what was perceived to be its utilitarian, instrumentalist view of education, which appeared to be led primarily by economic considerations. (1)

Many teachers may have career or educational objectives. According to John Mulcahy, President of the ASTI,

> … Proper funding of our second level schools would make a major difference to all in education and ensure that a fully rounded education is provided for all rather than a narrowly focused emphasis on a grammar school type of education, geared towards academically inclined students only. (2)

Parents often just want to get the best education possible for their "own" children and may not be motivated or particularly interested in ideas of equality or fairness. This competitive individualism is increasing, as evidenced by the number of pupils who drop out of secondary schools to attend private cramming schools at senior level.

The idea of mixed ability grouping in schools is, I believe, a sound one, based on the principle of equality. Equality of educational opportunity does not exist at present in Ireland, and it is an issue that needs to be addressed. Schools such as Malahide Community School, which strive towards this equality are hampered by the fact that other schools operate according to different principles and, therefore, distort the picture.

The Department of Education does recognise the value of group work and experiential learning, as evidenced by the Transition Year and the nature of the new Leaving Certificate Applied. However, the way forward must be to incorporate this aspects into the main stream curriculum and not isolate them as they are at present., The Department has shown some support for work on mixed ability in Malahide, and is considering funding a teacher to work in Scotland next year to research mixed ability teaching.

FOOTNOTES CHAPTER 4

1. John Coolahan, Ed., Report on the National Education Convention, the Convention secretariat, 1994, p.75

2. John Mulcahy, "ASTIR", February 1997, Vol. XXVI, No. 6, p. 15.

SELECTED BIBLIOGRAPHY

Drudy and Lynch, Schools and Society in Ireland, Gill and MacMillan, Dublin, 1993.

Gardner, Howard, Multiple Intelligences, The Theory in Practice, Basic Books, Washington D.C., 1989.

Hannan, Damian F., Boyle, Maura, Schooling Decisions: The Origins and Consequences of Selection and Streaming in Irish Post Primary Schools, ESRI, Dublin, 1987.

Hannan, Damian F., Smyth Emer, McCullagh John, O'Leary Richard, McMahon Dorren, Co-education and Gender Equality -- Exam Performance, Stress and Personal Development, ERSI, Dublin, 1996.

Heim, A.W., Watts, K.P. and Simmonds, V., AH3 Question Book, NFER-NELSON, Berkshire, 1975.

Kelly, A.V., Mixed Ability Grouping, Theory and Practice, Harper and Row, London, 1975.

Lynch, Kathleen, The Hidden Curriculum, The Falmer Press, East Sussex, 1989.

Reid, M., Clunies-Ross, L., Goacher, B., Vile, C., Mixed Ability Teaching, Problems and Possibilities, NFER-NELSON, Berkshire, 1981.

Sattlier, Jerome M., Assessment of Children's Intelligence and Special Abilities, Allyn and Bacon Inc., New York, 1974..

OTHER SOURCES

ASTIR, the Journal of the Association of Secondary Teachers in Ireland, February 1997, Vol. XXVI, No. 6.

Carey, Vincent, "Teaching and Learning" Ayr Education Division, 1992..

Coolahan, John, Editor, Report on the National Education Convention, the Convention secretariat, 1994.

Schools Practice Working Group, Mixed Ability Teaching in Maths for Schools Council - London, A Survey of Current Practice, Evans/Methuen Educational, London, 1977.

The Scottish Office, Achievement for All, A Report on Selection within Schools by HM Inspectors of Schools, Edinburgh, 1996.