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DISSERTATION ABSTRACT

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TITLE: DOES GENDER INEQUALITY AFFECT THE
EDUCATION OF STUDENTS TODAY? A Focus on
Second Level Education.

This dissertation examines the origin of gender inequalities and why they occur. A discussion on these perceptions is continued, whether they are conscious or unconscious, within the primary school.

The causes of sex stereotyping among students are looked at in detail in chapter two when reviewing equality issues in the second level schools. The different types of schools and possible influence they have on students are examined. Subject allocation and exam performance are considered in relation to the genders, the type of school and the teachers. The possible influence of teachers, parents and peers on students choice of subjects is treated with equal importance.

Through the appliance of various projects, I have attempted to expose students to a gender bias free environment in the art room, whether through types of group work or their working on a stereotypically female theme, (embroidery). The way a teacher interacts with the students is treated with the utmost importance. Findings and observations are recorded and noted when relevant.

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**DOES GENDER INEQUALITY AFFECT THE EDUCATION OF
STUDENTS TODAY?**

A focus on Second Level Education.

**A Dissertation submitted to the Faculty of Education
in
Candidacy for the
B.A. DEGREE IN ART AND DESIGN EDUCATION**

by

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CHAPTER 1

GENDER EQUITY WITHIN THE PRIMARY SECTOR

Where do gender inequalities begin?

Before looking at how a person's education is affected by gender inequalities, one should look as far back as childhood to see where gender bias can begin and why.

Are boys and girls different socially and academically from the beginning?

According to Pat Rees in general girls are more socially communicative, sitting up and talking earlier than boys. (1) This is thought to be due to the boys left hand side of the brain being slower to develop. (2) This is the side of the brain dealing with speech and formal learning subjects. (3)

Pat Rees also talks about the way parents treat the two sexes differently. Research shows that generally baby boys cry more than girls but they are also left to cry for longer than baby girls before being picked up and cuddled. It is up to parents to be aware of this and act accordingly so as not to encourage the different sexes to differ in temperament, taste and so on, as inevitably children can be conditioned to a certain extent into a way of thinking and behaving. An example of such inequalities was observed in an experiment on a group of five young mothers. (4) They were observed interacting with a six month old female child. They saw the child as being gentle with a soft cry. A similar group of mothers were also observed interacting with a six month old boy. The boy was offered stereotypical male toys to play with. Both babies were the same child, dressed in different clothes. These young parents fell into the trap both of treating these children in the stereotypical male and female roles and of forcing sex roles onto the very young children. By the age of three it is said that children will be responding to

stereotypical expectations. (5) Research has shown that babies are treated differently depending on whether they are wearing blue or pink clothes. (6)

Freud's theory of gender development is very controversial and has caused much dispute, not only with feminists. He believes that the acquisition of gender differences in infants is centred on the possession or lack of a penis. He seems really to be concentrating on the different anatomy of the male and female more so than gender. (7) The Oedipus Complex is generally considered to last from the age of two and a half to six years in the child. The Oedipus Complex is used in psycho analysis and is about the child's unconscious desire for the exclusive love of her/his parent of the opposite sex. The young boy has unconscious erotic feelings for or towards the mother but suppresses them for fear of castration by the father, who is seen here obviously as the superior figure. The young female supposedly resents (penis envy) yet identifies with the mother and recognises herself as being secondary to the male. From this it is obvious that Freud believed the male species to be the superior being.

The Primary School

The students will be entering the school with some stereotypical beliefs and values established in the home. It is now up to the teacher to develop an equal gender policy in the classroom - this includes the single sex primary school also. It is the teacher who creates the atmosphere. It is s/he who controls the pupils through words, voice and expression, to all of which children respond accordingly. The school ethos affects the pupils' awareness and actions on gender differences.

Lockheed & Klien (1985) state that

"evidence shows that as early as elementary school years, sex as a status characteristic can be detected in children's cross-sex behaviour and attitudes by the senior high school level male domination of mixed sex groups is well documented". (8)

On entry to the junior school there is little difference between the young male and female academically. (9) Blackstone (1976) feels that it is partly the teachers' fault that the male and female student's performances differ in the classroom situation. (10) Dwyer (1973) discovered that through research of sex stereotyping that reading was seen as a feminine activity, (11) perhaps as mathematics is seen as a more masculine subject. There are many more female primary teachers than male (ratio 3:1 in Ireland). (12) In the early years of schooling there are more female teachers than male. Is it because women are more qualified to teach the younger children than men? They are certainly not the more valued teachers as more males teach the higher grades, from grades 2 - 6, compared to females. (13) Young children, in my opinion, will observe this and see women caring for the younger children as the norm. (14) If the teacher in the primary school treats the boys and girls equally there should be, to a certain extent, little or no difference in academic ability. Palardy, 1969, (15) compared a group of first grade teachers who believed boys and girls could read equally well with a second group who felt boys were inferior in reading ability to girls. By the end of the academic year the first group of students showed similar reading scores but the second group indicated large differences between the girls and the boys, in favour of the girls. (16)

The *Irish Times* newspaper supplement on Education and Living (November 14, 1995) writes on "Boys lagging Behind". Micheal O' Martin and Mark Morgan (of the Educational Research Centre, in St. Patrick's College, Dublin) state "it is of interest that gender differences tend to be even stronger among poor readers; nearly three times as many Irish boys would appear to have serious reading difficulties". According to the IEA study the earlier study of reading in the classroom underlined the fact that boys lagged behind, due to a slower language development amongst boys. (17) Again the reason for the slower maturing is thought to be due to the left hand side of the brain being slower to develop in boys. (18) Yet the theory

continues to say that boys can be more advanced in the three dimensional area such as science, architecture, engineering and various arts. (19) A question arises, does the teacher expect the boys to be better at 3D work? Why should they be better? There is no difference in strength, etc. at this age. If anything, boys are slower developers physically. One can see clearly here that the explanations for the differences in the abilities of the genders vary somewhat. It is up to the teacher in the primary school to take the opportunity to put an end to such stereotyping through his/her method of teaching. The results of a large scale survey on gender inequalities within the classroom throughout Europe came up with similar results. The outcome of the Irish survey found that boys were the focus of attention for teachers in primary classrooms. (20) Many of the teachers were unaware of their bias towards the genders when it came to asking questions. The boys were found to be asked more thought provoking questions than girls. The study also showed that boys are more willing to speak on a given subject in the classroom. These findings, and others, question the validity of coeducation and also, what is more important, the teachers' methodology. They should be made aware of the potential problems when teaching both genders, whether through in-service education, new guidelines etc. All future primary schools will continue to be coeducational so it is imperative that the problems be addressed as soon as possible. (21)

The teachers' handbook for primary schools suggests regarding the teaching of music that while a large number of songs are suited to both boys and girls some songs are particularly suited to boys, e.g. martial, gay, humorous, rhythmic airs. Others are more suited to girls, e.g. lullabies, spinning songs, songs tender in content and expression. The handbook also talks about physical activities, where boys should have separate training to acquire a variety of skills and techniques and where girls can become more aware of style and grace. (22) A representative committee has been established to examine the level of sex stereotyping in text

books and teaching materials in primary schools, as well as to make recommendations on the elimination of such content on a phased basis. (23)

The reinforcement of sex stereotyping has been referred to as part of the "hidden curriculum". (24) One major contributor to stereotyping in relation to this would be the rule of all students having to wear a uniform. This is very common in Irish schools both in primary and second level. "Schools can reinforce uniformity of clothing, but not of personality". (25) This statement goes on to say that students would be more confident, etc. if they could wear their own clothes. The uniform is practical and students can be more individual when outside school. This is not to say that they should not be so while in the school. Girls in most schools must wear skirts. Only a handful of schools, mainly second level, allows girls to wear trousers. (26) School boards of management in consultation with parents make decisions regarding uniform. The majority of parents opt for a school uniform for financial reasons. (27)

One has only to look at the play grounds in primary and second level schools to see who takes over most of the grounds - it is the males. (28) This could be due to playing football and other games that take up large areas of the playground. But there is another factor that should be looked at. Would more girls play football and so on if they did not have to wear a skirt as uniform? If they were allowed wear trousers as part of the uniform from primary right through second level there could be some interesting differences.

Questionnaires were sent out to 800 Primary schools, 200 all boys, 200 all girls, and 400 mixed. (29) Results indicate:

- * Sex stereotyping is a negative influence on the educational development of both boys and girls.
- * Children will infer from their experience in Primary school what are considered to be appropriate roles and activities for

- boys and girls and for men and women.
- * Experiences at Primary school will carry over into later educational and vocational choices.
- * Different types of school organisation reflect different aspects of problems with gender inequalities.
- * Increase the awareness of teachers and parents of inequalities relating to gender can lead to a reduction of the inequalities. (30)

Primary School Art.

The students' abilities in the art area in the primary school have passed the scribbling stage (2-4 years) and right through from the pre-schematic (4-7) to the schematic (7-9) at which time many will have reached the state of reasoning stage from 11-13 years. After that the crisis of adolescence begins. (31) The teacher should be here to aid the students along the path of visual awareness.

The subject - Craft Design and Technology (CDT) - in England (32) has a policy of equal opportunities. Girls are being encouraged to take up the subject. It is also being encouraged in single sex schools. "Girls need to study the subject and gain appropriate qualifications for just the same reason as boys". (33) Here one can see that the CDT programme is not doing a 'favour' for girls but showing that it is just as natural for a female to do such a subject. It is the CDT teacher who is responsible for the classroom atmosphere keeping an air of equality and putting a stop to any gender bias.

A CDT project was done on a group of 9 females and 9 males, all in the eleven year age group. The girls in the beginning were quieter and more reserved whereas the boys were at home playing, working with the tools and so on due to being more familiar with them. The end product that everybody had to come up with was a free running vehicle that would be tested on a ramp to see good movement. The teacher observed classroom interaction and stopped any sexism amongst the boys immediately. He noted that the boys unconsciously or consciously felt that this

was 'their' subject and 'they' were entitled to the tools first. The girls seemed to accept this and, for example, handed over the hammer, etc. accordingly. The teacher intervened and sorted the problem out carefully without making a fuss. The girl got the hammer back. By the end of the seven week period girls had gained confidence in this area and gender interaction improved a great deal and tools were shared accordingly. The teacher encouraged students to talk on the positive and negative performance of their vehicles. This, in the teacher's opinion, helped the girls see that they did have a knowledge in what they were talking about. The results showed that girls' construction skills were better than that of the boys' and boys were exceeding in the practical movement of the vehicle.

Although the CDT project is a very positive idea for implementing a gender policy in the classroom, it also suggests separating male and female students from each other when carrying out the projects and so on. Segregating the sexes from each other could defeat the purpose of implementing gender equity within the classroom even though they would learn similar skills. It may encourage female students to take up the subject, but does not educate boys on how well girls can work with tools and vice versa. Hyde (1971) says on mixed and single sex schools

" the essential belief that since 'life is coeducational' boys and girls should go to school together so as to grow continuously in mutual understanding and respect rather than as an institution in which the young are indoctrinated in the lore or 'mysteries' of one sex". (34)

From this project it becomes clear that depending on how a teacher teaches and interacts with the sexes, the different the result. For example, if at the beginning of the project the teacher left the male students 'in charge' of the tools the outcome could have been quite different with the girls gaining little knowledge and probably less interest in the subject. From this both genders could see each other in the stereotypical roles where the males dominate such situations, thus justifying both sexes underlining prejudices and feelings. Such a project should be introduced to

primary girls and boys together so as to educate themselves and their teachers of the similarities of their abilities.

FOOTNOTES CHAPTER 1

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10. Riordan. Boys and Girls in School p. 54
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12. Patrick Clancy; Sheelagh Drudy; Kathleen Lynch; Liam O'Dowd. Ireland, a Sociological Profile. (Dublin: Institute of Public Administration, 1991) p. 296.
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25. David Gribble. Considering Children. (London: Porling Kindersland Ltd. 1985). p. 19.
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30. Ibid., p. 9.
31. Viktor Lowenfelds stages of creative and mental development in Art. Elliot Eisner. Educating Artistic Vision. p. 89.

32. John Eggleston. The Best of Craft Design and Technology. (Stoke-on-Trent: Trentham Books, 1988). P. 148-155.
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CHAPTER 2

EQUALITY ISSUES WITHIN SECOND LEVEL SCHOOLS

Types of schools - a background

Secondary education was traditionally provided in a small number of primary schools in a department known as "secondary top". (1) These departments were mostly in convent national schools which were sanctioned to teach the secondary programme.

TABLE 1
SECOND LEVEL SCHOOLS CLASSIFIED BY SEX CATEGORY OF SCHOOL
(1993 -1994)

Category	Male	Female	Mixed	Total
Secondary	129	166	166	461
Vocational	1	1	246	248
Community	1	—	56	57
Comprehensive	1	1	14	16
TOTAL	132	168	482	782

Note: The above data represent the de facto enrolment situation in schools. For example a school enrolling 600 boys and on girl is classified as a mixed school.

SOURCE: 1993/94 Statistical Report. (Dublin: The Stationery --Office, 1995) p.43.

The secondary schools were the first real independent second level schools. There are now 461 (compared to 476 in 1990) secondary schools spread throughout southern Ireland. (2) A large percentage of these is Catholic, the dominant religion in this country. Of these schools 70% are single sex schools and the majority of these are all-girls. It may be relevant to take note that these single sex schools have a predominantly single sex teaching body (3) which could be a contributing factor to problems of gender inequity in the second level schooling system.

CHAPTER 2

THEORY OF THE ATOM IN QUANTUM MECHANICS

2.1. THE SCHRÖDINGER EQUATION

The Schrödinger equation is a partial differential equation that describes the wave function of a system. It is the quantum mechanical equivalent of Newton's second law of motion. The wave function, denoted by ψ , is a complex-valued function that contains all the information about the system. The probability of finding the system in a particular state is given by the square of the magnitude of the wave function, $|\psi|^2$.

2.2. THE HAMILTONIAN

The Hamiltonian, denoted by H , is the total energy of the system. It is a function of the position and momentum of the particles in the system. The Schrödinger equation can be written as:

Position	Momentum	Energy
x	p_x	E
y	p_y	E
z	p_z	E
t	p_t	E
θ	p_θ	E
ϕ	p_ϕ	E
χ	p_χ	E
ψ	p_ψ	E
η	p_η	E
ξ	p_ξ	E
ζ	p_ζ	E
δ	p_δ	E
γ	p_γ	E
β	p_β	E
α	p_α	E
ν	p_ν	E
μ	p_μ	E
λ	p_λ	E
κ	p_κ	E
ι	p_ι	E
θ	p_θ	E
ϕ	p_ϕ	E
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δ	p_δ	E
γ	p_γ	E
β	p_β	E
α	p_α	E
ν	p_ν	E
μ	p_μ	E
λ	p_λ	E
κ	p_κ	E
ι	p_ι	E
θ	p_θ	E
ϕ	p_ϕ	E
χ	p_χ	E
ψ	p_ψ	E
η	p_η	E
ξ	p_ξ	E
ζ	p_ζ	E
δ	p_δ	E
γ	p_γ	E
β	p_β	E
α	p_α	E
ν	p_ν	E
μ	p_μ	E
λ	p_λ	E
κ	p_κ	E
ι	p_ι	E
θ	p_θ	E
ϕ	p_ϕ	E
χ	p_χ	E
ψ	p_ψ	E
η	p_η	E
ξ	p_ξ	E
ζ	p_ζ	E
δ	p_δ	E
γ	p_γ	E
β	p_β	E
α	p_α	E
ν	p_ν	E
μ	p_μ	E
λ	p_λ	E
κ	p_κ	E
ι	p_ι	E
θ	p_θ	E
ϕ	p_ϕ	E
χ	p_χ	E
ψ	p_ψ	E
η	p_η	E
ξ	p_ξ	E
ζ	p_ζ	E
δ	p_δ	E
γ	p_γ	E
β	p_β	E
α	p_α	E
ν	p_ν	E
μ	p_μ	E
λ	p_λ	E
κ	p_κ	E
ι	p_ι	E
θ	p_θ	E
ϕ	p_ϕ	E
χ	p_χ	E
ψ	p_ψ	E
η	p_η	E
ξ	p_ξ	E
ζ	p_ζ	E
δ	p_δ	E
γ	p_γ	E
β	p_β	E
α	p_α	E
ν	p_ν	E
μ	p_μ	E
λ	p_λ	E
κ	p_κ	

Girls are said to be over represented in these academic secondary schools and under represented in the vocational sector. (4) Since 1974 all 248 vocational schools have been run by Boards of Management comprising of 12 members representing teachers, parents and community interests. (5) The management, unlike the denominational secondary schools, is secular and nominally interdenominational. (6) These schools traditionally focused on practical subjects and prepared students for trades. Thus the traditional stereotypical role of the male as a manual worker must have remained to some extent, which would account for these schools being over represented by boys. (7)

TABLE 2

PUPILS IN SECOND LEVEL SCHOOLS CLASSIFIED BY SEX CATEGORY OF SCHOOL.

Category	Male	Female	Mixed		Total
			Male	Female	
secondary	62,065	89,304	38,882	33,784	224,035
Vocational	129	382	53,170	41,079	94,760
Community	769	—	20,916	17,802	39,487
Comprehensive	340	332	4,532	4,159	9,363
TOTAL	63,303	90,018	117,500	96,824	367,645

SOURCE: 1993/94 Statistical Report. (Dublin: The Stationary Office, 1995) p.43.

The comprehensive schools were built between 1966 and 1974 in an attempt to construct a unified second level education across Ireland. There are 16 of these schools (8). They are, by design, created to offer a wide range of curricular options for students. They are denominational schools, 4 being Protestant and 12 Catholic but they cannot exclude students because of their religious beliefs. (9) Each pupil is also encouraged to take at least one technical subject.

It is not to be understood that the results of the present study are to be taken as a final word on the subject. The results of the present study are to be taken as a preliminary report on the subject. The results of the present study are to be taken as a preliminary report on the subject.

The results of the present study are to be taken as a preliminary report on the subject. The results of the present study are to be taken as a preliminary report on the subject. The results of the present study are to be taken as a preliminary report on the subject.

TABLE 1
PERCENTAGE OF STUDENTS WHOSE ACTIVITY WAS CLASSIFIED BY SEX AND AGE

Age	Sex	Activity	Percentage
10-12	Male	Active	45.0
10-12	Female	Active	35.0
13-15	Male	Active	55.0
13-15	Female	Active	45.0
16-18	Male	Active	65.0
16-18	Female	Active	55.0

The results of the present study are to be taken as a preliminary report on the subject. The results of the present study are to be taken as a preliminary report on the subject. The results of the present study are to be taken as a preliminary report on the subject.

The first community school was set up in 1972 and represented a development from the comprehensive school. It was a multid denominational type of school and was intended to work in conjunction with the community, e.g. sharing sports facilities, etc. There are now more than fifty of this type of school. These primarily coeducational schools are managed by both VEC's and religious groups.

Following the creation of the community school came the resurrection of the community college. They are similar to community schools in many ways, offering a wide variety of technical and vocational subjects. However, the community colleges have deeds of trust and 10% of the capital cost of the school must be raised by the trustees (local VEC and religious interests). In these different types of schools 61% of students are educated by secondary schools, 26% by vocational and 13% by community and comprehensive schools. (10) It is clear that the secondary school still has a big impact on second level Irish education, (See table 2).

The overall aim of second level education is to "prepare students for adult life and to help them to proceed to further education or to go directly to employment". (11) The aim does not mention whether this applies to either boys only or girls only, it applies to 'students' irrespective of race, social class or gender. The 1976 Sex Discrimination Act insures that there should be "no discrimination between boys and girls in provision of educational resources or curricular openings". (12) Yet, throughout Ireland, and indeed in schools across Europe, (13) there is a lack of gender equality within the school. Many questions need to be, and indeed have been, raised as to why and how this occurs and where it stems from.

Equality in the curriculum.

It has been established that the range of subjects available is much better in the coeducational school (especially in the community and comprehensive schools).

The students, both male and female, therefore appear to have a wider range to choose from. Or do they? Mixed schools often timetable stereotypically male and female subjects to run at the same time. (14) This also includes examination time table options. (See overleaf for table 3)

TABLE 3
RELATIONSHIP BETWEEN GENDER MIX IN SCHOOLS AND
AVAILABILITY OF LEAVING CERTIFICATE SUBJECTS

Subject	Percentage of single-sex schools offering subject		Percentage of mixed schools offering subject		
	Boys	Girls	to boys only	to girls only	to both
1 Irish (higher)	89.5	89.9	1.6	1.4	71.5
2 Irish (lower)	90.1	89.9	0.9	0.5	82.4
3 Irish (common)	8.0	11.6	—	—	19.2
4 English (higher)	91.4	91.0	1.4	0.5	77.1
5 English (lower)	89.5	88.4	2.3	0.5	81.0
6 English (common)	9.9	14.3	—	0.2	20.6
7 Latin	14.2	7.9	0.7	0.2	1.9
8 Greek	1.9	0.5	0.2	—	—
9 Hebrew studies	—	—	—	—	0.2
10 French	95.7	99.5	0.9	3.5	89.6
11 German	22.2	55.0	0.7	2.1	19.7
12 Italian	1.2	2.1	0.5	—	0.2
13 Spanish	9.3	23.3	0.9	1.2	5.8
14 History	92.0	97.4	2.8	1.9	71.5
15 Geography	95.1	94.2	2.5	1.2	78.2
16 Mathematics (higher)	90.7	89.4	10.4	0.7	60.9
17 Mathematics (lower)	93.2	95.2	0.7	0.2	86.8
18 Mathematics (common)	5.6	5.3	—	—	15.0
19 Applied mathematics	32.1	5.3	2.5	—	8.3
20 Physics	92.6	78.8	7.9	0.2	59.5
21 Chemistry	87.0	88.9	1.9	0.7	47.5
22 Physics & chemistry	12.3	6.3	2.3	0.2	17.4
23 Agricultural science	21.0	2.6	5.6	0.2	16.2
24 Biology	87.7	97.9	1.4	3.7	88.9
25 Agricultural economics	3.7	0.5	0.7	—	2.1
26 Engineering	13.0	0.5	42.1	—	17.4
27 Technical drawing	62.3	3.2	47.0	—	37.5
28 Construction studies	29.6	—	46.8	—	17.4
29 Home economics (scientific & social)	19.1	97.4	—	26.6	60.2
30 Home economics (gen.)	1.9	33.3	—	7.9	6.5
31 Accounting	85.2	83.1	1.2	7.2	66.2
32 Business organisation	85.8	85.7	0.9	6.5	70.1
33 Economics	68.5	41.8	1.4	—	34.5
34 Economic history	2.5	1.	—	0.2	0.5
35 Art (incl. crafts)	64.8	95.8	2.1	4.4	68.8
36 Music & musicianship	13.6	57.7	0.9	4.2	12.5
37 Physical education	63.6	85.7	1.9	1.2	58.1
38 Classical studies	4.9	3.2	—	—	0.9

Source: Department of Education (1991), table 14.9. (We gratefully acknowledge the assistance of the Statistics Branch of the Department of Education in preparing this table.)

SOURCE: Drudy & Lynch Schools & Society in Ireland. (Dublin: 1992) p.174.

It is distressing to see that even in the mixed school environment, all subjects are not on offer to boys and girls in every school (see table 3 for clarification). The fact that art is only offered to either boys (2.1%) or girls (4.4%) in some schools is amazing. As Eisner said, art serves people

"not only by making the ineffable and visionary available, it also functions as a means of activating our sensibilities; art provides the subject matter through which our human potentialities can be exercised". (15)

TABLE I

RELATIONSHIP OF AERIAL PHOTOGRAPHIC SURVEY DATA TO
GROUND SURVEY DATA FOR THE 1960-1961 SEASON

Area	Ground Survey	Aerial Survey	Ratio
1	100	100	1.00
2	100	100	1.00
3	100	100	1.00
4	100	100	1.00
5	100	100	1.00
6	100	100	1.00
7	100	100	1.00
8	100	100	1.00
9	100	100	1.00
10	100	100	1.00
11	100	100	1.00
12	100	100	1.00
13	100	100	1.00
14	100	100	1.00
15	100	100	1.00
16	100	100	1.00
17	100	100	1.00
18	100	100	1.00
19	100	100	1.00
20	100	100	1.00
21	100	100	1.00
22	100	100	1.00
23	100	100	1.00
24	100	100	1.00
25	100	100	1.00
26	100	100	1.00
27	100	100	1.00
28	100	100	1.00
29	100	100	1.00
30	100	100	1.00
31	100	100	1.00
32	100	100	1.00
33	100	100	1.00
34	100	100	1.00
35	100	100	1.00
36	100	100	1.00
37	100	100	1.00
38	100	100	1.00
39	100	100	1.00
40	100	100	1.00
41	100	100	1.00
42	100	100	1.00
43	100	100	1.00
44	100	100	1.00
45	100	100	1.00
46	100	100	1.00
47	100	100	1.00
48	100	100	1.00
49	100	100	1.00
50	100	100	1.00
51	100	100	1.00
52	100	100	1.00
53	100	100	1.00
54	100	100	1.00
55	100	100	1.00
56	100	100	1.00
57	100	100	1.00
58	100	100	1.00
59	100	100	1.00
60	100	100	1.00
61	100	100	1.00
62	100	100	1.00
63	100	100	1.00
64	100	100	1.00
65	100	100	1.00
66	100	100	1.00
67	100	100	1.00
68	100	100	1.00
69	100	100	1.00
70	100	100	1.00
71	100	100	1.00
72	100	100	1.00
73	100	100	1.00
74	100	100	1.00
75	100	100	1.00
76	100	100	1.00
77	100	100	1.00
78	100	100	1.00
79	100	100	1.00
80	100	100	1.00
81	100	100	1.00
82	100	100	1.00
83	100	100	1.00
84	100	100	1.00
85	100	100	1.00
86	100	100	1.00
87	100	100	1.00
88	100	100	1.00
89	100	100	1.00
90	100	100	1.00
91	100	100	1.00
92	100	100	1.00
93	100	100	1.00
94	100	100	1.00
95	100	100	1.00
96	100	100	1.00
97	100	100	1.00
98	100	100	1.00
99	100	100	1.00
100	100	100	1.00

The data in this table are based on the results of the aerial photographic survey conducted in the summer of 1960. The ground survey data were obtained from the same area during the same period. The ratio column shows the relationship between the aerial and ground survey data. The data are presented in a tabular form for easy comparison.

Another factor which is seen to affect students' subject choice in the mixed or single sex school is the influence of role models, (16) e.g. teachers who encourage or discourage students, depending on sex to join and enjoy their particular subject. Availability of the subject is also important. Most single sex schools do not have the subjects that would be normally stereotypically associated with the opposite sex, e.g. very few boys' schools offer Home Economics and girls' schools have very few, if any, technical subjects, (see tables 5 and 6). Professor Damian Hannan, Economic & Social Research Institute, has noted that boys' schools focus more on commerce and the sciences, whereas girls' schools are concerned with an above average take-up of languages. (17)

Good and appropriate presentation and content of syllabi is a necessity. Otherwise consciously or unconsciously a stereotypical view of a subject can arise. Another factor, perhaps the most important and influential factor, is that of the attitudes of peers, teachers, parents and oneself. What type of support is the student getting from these people? A survey, conducted by Mary Lally (18) on second level students and the influences on their subject choice, had some interesting results. Overall she found that girls preferred continental languages to Irish, Mathematics and Science. In the Junior Certificate level the gender gap in maths. and science in favour of boys seems to have closed somewhat. (19) Both sexes admitted to choosing a particular subject because they were either good at it or they liked it but she found that boys rated a career or a job as being more important than did girls.

Gender is likely to be seen as an independent factor that influences some attitudes. Males are found to be more aware of the necessity of the preparation for potential employment and less about social and personal development (20). On the other hand girls in general are satisfied with most aspects of their social and personal development (21). Girls appeared to be influenced by their mother and themselves. They were generally found to be satisfied with their choice of subjects. Boys said

that they were influenced firstly by their father, then by their mother, but rarely by themselves. They were not as satisfied with their subject choice in general as many would have preferred to do subjects such as art, history and music. This is a very interesting find, implying that girls are settled in their 'chosen' subjects and boys pleasing others in their choice while looking to the future more. It has also been found that boys, for both the Junior and Leaving Certificate, are more likely to choose the traditional options. (22) Another question arises - why do boys look forward and girls not as much so? This question delves deeper into the hidden curriculum. Girls 'appear' to be more self confident and independent if they come from a family where the mother is in a higher status employment outside the home. (23)

"Similarities between men and women should be stressed, not their differences emphasised ... no jobs should be regarded as male or female and it should not be implied that certain jobs are incompatible with one's sex" (24).

A survey conducted by the Economic & Social Research Institute (ESRI) found that the strongest influence on gender role expectations come from the students' parents. (25) Are the schools underlining the differences between girls and boys, thus conditioning them to the 'suitable' role of the gender? Could this, along with expectations from the home, be a main reason why boys consciously or unconsciously still aspire to be the bread winner? Pupils enter second level schooling knowing little about particular subjects. It is there that they learn different attitudes and gain different experiences from their peers and teachers alike, thereby gaining an awareness of others' views and attitudes to various subject areas. (26)

The key aims of the Green Paper regarding gender equity focus on three main issues: unequal representations in management of schools; out-moded sex role stereotyping and the restriction of choices. (27) Unequal management is a great problem in Irish schools, and is not limited to the primary sector. Fewer women

are applying for available posts. Out of the 33 new principals appointed to schools in 1994, 81% were male. This includes 4 male principals being allocated to all-girls secondary schools. (28) Traditionally females were never appointed to principal in all-boys and rarely in coeducational schools (29). Even within the primary sector with the 75% female teacher employment, the majority of principals are male. The reason that there are 200 female principals in secondary schools could be because many are nuns and they did not have to compete for the position. There are 250 male principals in secondary schools. More than three in five female principals are Religious whereas only one in five male principals are Religious. (30) According to Drudy & Lynch there are 27 female principals out of 245 in the Vocational sector. The actual interview boards are predominantly male, which could be a reason for the discouraging number of female applicants. (31) This problem of males being in the higher positions in general, even in the single sex girls' school, influences students' notion of the role model. This could have a negative effect on both female and male students and their perception of their role in the future.

Co-education or segregation - the on-going debate.

There is an on-going debate as to which type of school is preferable, whether coeducational or single sex. The concern here is to determine which type of school is more beneficial to the student? Which gives her/him more confidence, helps their social and personal development more? Which type of school does not, consciously or unconsciously, impose certain roles for the male and female student to follow? It is thought that single sex schools are more likely to promote traditional sex roles, emphasising the distinctive characteristics expected of each sex. The coeducational schools are seen to teach egalitarian sex roles in both theory and practice. (32) Yet this does not necessarily mean that some stereotypical views are not conveyed in the coeducational school. "It is not the mere existence of coeducational schools that is important but the way co-education

is used and managed to achieve gender equality". (33) It is still believed that co-education offers the best chance of equal opportunities.

Surveys and questionnaires have been carried out over the years to determine whether one gender out-performs the other. There have been many conflicting results but most have been in favour of mixed schooling.

Academic achievements

Before discussing students' academic achievements one must look at the number of students entering schools.

TABLE 4
**Female and male participation rates at the
three major education levels**

	<i>Females</i>		<i>Males</i>	
	<i>Number</i>	<i>Percentage</i>	<i>Number</i>	<i>Percentage</i>
First level (age 4- 12 approx.)	272,592	48.6	288,278	51.4
Second level (age 12-17/18 approx.)	174,872	51.1	167,492	48.9
Third level (age 17/18+ approx.)	30,738	46.6	35,211	53.4
Total	478,202		490,981	

Source: Department of Education (1991), table 1.

SOURCE: Drudy & Lynch. Schools & Society in Ireland. (Dublin 1992) p. 172.

It is clear from Table 4 that more female than male students continue second level education. The difference one can see in the female participation rate is in third level, but this is closing all the time, according to Clancy. (34) It must be looked at how male and female academic performance exceeds or suffers in the school situation. Girls have been found to out-perform boys on all levels in both Junior and Leaving Certificate examinations. (35) Girls in coeducational secondary schools outperform their male counterparts in coeducational and single sex girls schools at leaving certificate level. (36)

1. The first part of the report is a general introduction to the subject.

2. The second part is a detailed description of the methods used.

3. The third part is a discussion of the results obtained.

4. The fourth part is a conclusion and a list of references.

5. The fifth part is an appendix containing supplementary material.

1. Introduction

The purpose of this report is to present the results of a study on the effect of temperature on the rate of reaction between hydrogen and oxygen.

The study was carried out by measuring the rate of reaction at different temperatures.

2. Methods

The rate of reaction was measured by the volume of gas evolved in a given time.

The volume of gas was measured by the displacement of water in a graduated cylinder.

Temperature (°C)	Volume of gas (cm ³)	Time (s)	Rate of reaction (cm ³ /s)
20	10	10	1.0
30	20	10	2.0
40	40	10	4.0
50	80	10	8.0
60	160	10	16.0
70	320	10	32.0
80	640	10	64.0
90	1280	10	128.0

3. Results and Discussion

The results of the study show that the rate of reaction increases with temperature. The rate of reaction at 20°C is 1.0 cm³/s, at 30°C it is 2.0 cm³/s, at 40°C it is 4.0 cm³/s, at 50°C it is 8.0 cm³/s, at 60°C it is 16.0 cm³/s, at 70°C it is 32.0 cm³/s, at 80°C it is 64.0 cm³/s, and at 90°C it is 128.0 cm³/s. This shows that the rate of reaction doubles for every 10°C increase in temperature.

The reason for this is that as temperature increases, the molecules have more energy and move faster, so they collide more often and with more force.

It has been noted that boys' poorer performance in examination situations could be due to their reaching puberty somewhat later than girls. (37) Educationalists have suggested that the new six year cycle in second level schools will give boys more time to catch up and scores should soon even out. (38) Although girls have been found to be brighter, they have lower self esteem and suffer from higher levels of stress. (39) This is also more common in the coeducational school. Going back to the notion of coeducation or segregation it should be noted that male second level students also deal with a great deal of stress due to exam pressure. (40) Although girls suffer to a larger extent under pressure in the coeducational system, both genders questioned on coeducation in a survey came up with similar and relevant answers. (41) Both felt that they gained in self confidence thereby developing into well balanced people and felt they had learned to build positive communicative relations with those of the opposite sex.

The Green Paper on Education for a Changing World states that

" Education ... must contribute to the opening up of opportunities, and to the growth and self esteem of all, irrespective of sex". Can subject provision effect a student's self esteem? It can! in the mixed school setting more than in the single sex school. Within the single sex school the students are not as aware of what they are missing regarding choice of subject, etc. This is not necessarily positive for male or female pupils.

Table 5 and 6 show clearly the subjects that are taken up and offered to Junior and Leaving Certificate students. They are self explanatory. (See table overleaf).

TABLE 5

NUMBER OF PUPILS IN ALL SECOND LEVEL SCHOOLS TAKING EACH
SUBJECT IN THE JUNIOR CERTIFICATE PROGRAMME CLASSIFIED BY
SEX CATEGORY OF SCHOOL

Subject	Category of School	Total	Single Sex Schools		Mixed Schools		Within Mixed Schools			
			Boys	Girls	Boys	Girls	Provided to Boys only	Provided to Girls only	Provided to both sexes of which	
									Boys	Girls
1. Irish		207,188	43,736	55,475	61,179	46,798	—	—	61,179	46,798
2. English		209,971	44,004	55,918	62,618	47,431	—	—	62,618	47,431
3. Mathematics		209,968	44,007	55,883	62,654	47,424	—	—	62,654	47,424
4. History		193,540	43,722	55,621	51,968	42,229	107	—	51,861	42,229
5. Geography		195,339	43,776	55,674	53,302	42,587	215	—	53,087	42,587
6. Latin		3,388	913	805	556	114	388	2	168	112
7. Greek		188	26	4	158	—	158	—	—	—
8. Hebrew Studies		31	1	1	19	10	—	—	19	10
9. Classical Studies		2,572	1,083	1,130	192	167	1	2	191	165
10. French		157,551	33,136	47,932	39,758	36,725	16	30	39,742	36,695
11. German		63,979	15,068	21,894	13,427	13,590	305	118	13,122	13,472
12. Spanish		7,799	2,257	3,096	1,318	1,128	96	8	1,222	1,120
13. Italian		827	196	429	112	90	4	5	108	85
14. Science		184,929	42,927	44,110	55,403	42,489	51	1	55,352	42,488
15. Science (with Local Studies)		2,619	8	65	1,596	950	69	47	1,527	903
16. Home Economics		79,902	184	32,808	11,322	35,588	20	4,525	11,302	31,063
17. Music		46,781	5,909	22,071	8,244	10,557	198	182	8,046	10,375
18. Art, Craft & Design		94,201	15,175	29,270	24,443	25,313	4	222	24,439	25,091
19. Materials Technology (Wood)		55,400	10,963	98	37,441	6,898	5,260	—	32,181	6,898
20. Metalwork		34,399	2,586	10	28,242	3,561	6,184	2	22,058	3,559
21. Technical Graphics		69,641	19,142	1,004	40,501	8,994	7,603	—	37,898	8,994
22. Technology		12,809	4,479	2,365	4,012	1,953	372	96	3,640	1,857
23. Business Studies		139,832	32,433	41,777	30,696	34,926	640	1,121	30,056	33,805
24. Typewriting		4,069	82	1,450	1,010	1,527	5	452	1,005	1,075
25. Civics		167,530	42,807	55,261	38,030	31,432	162	6	37,868	31,426
26. Physical Education		189,511	40,630	54,549	53,269	41,063	231	8	53,038	41,055
27. Envir. & Social Studies		2,891	227	185	1,542	937	63	31	1,479	906
† 28. E.S.P. - History I		395	—	90	172	133	—	—	172	133
29. E.S.P. - Geography I		307	1	—	172	134	—	1	172	133
30. Computer Studies		60,085	12,158	13,834	20,042	14,051	333	81	19,709	13,970
Total number of pupils in the Junior Certificate Programme		210,262	44,025	55,920	62,766	47,551	—	—	—	—

† E.S.P. denotes European Studies Project

SOURCE: 1993/1994 Statistical Report (Dublin: The Stationery Office, 1995) p. 64.

TABLE 6

**NUMBER OF STUDENTS IN ALL SECOND LEVEL SCHOOLS TAKING
EACH SUBJECT IN THE LEAVING CERTIFICATE PROGRAMME
CLASSIFIED BY SEX CATEGORY OF SCHOOL**

Subject	Category of School	Total	Single Sex Schools		Mixed Schools		Within Mixed Schools			
			Boys	Girls	Boys	Girls	Provided to Boys only	Provided to Girls only	Provided to both sexes of which	
									Boys	Girls
1. Irish		119,288	23,702	31,853	34,344	29,389	239	—	34,105	29,389
2. Communicative Irish		693	53	76	397	167	44	—	353	167
3. English		122,993	23,855	32,162	36,477	30,499	158	—	36,319	30,499
4. Latin		441	258	118	41	24	15	2	25	22
5. Greek		21	14	1	5	1	3	—	2	1
6. Hebrew Studies		41	2	25	9	5	—	—	9	5
7. French		76,012	13,660	23,336	18,361	20,655	547	52	17,814	20,603
8. German		24,578	4,654	8,092	6,003	5,829	489	296	5,514	5,533
9. Italian		351	113	97	77	64	12	18	65	46
10. Spanish		3,395	603	1,404	748	640	166	29	582	611
11. History		34,943	8,184	9,010	10,318	7,431	341	101	9,977	7,330
12. Geography		50,767	11,624	11,778	15,889	11,476	299	10	15,590	11,466
13. Maths		122,888	23,927	32,121	36,508	30,332	45	—	36,463	30,332
14. Applied Maths		2,534	1,432	151	822	129	317	14	505	115
15. Physics		23,830	7,880	3,440	10,021	2,489	770	3	9,251	2,486
16. Chemistry		17,763	5,007	4,879	4,407	3,470	268	59	4,139	3,411
17. Physics and Chemistry		3,490	840	290	1,653	707	242	12	1,411	695
18. Agricultural Science		5,023	1,361	26	3,111	525	666	14	2,445	511
19. Biology		63,060	9,279	19,804	12,763	21,214	102	309	12,661	20,905
20. Agricultural Economics		529	79	22	354	74	156	14	198	60
21. Engineering		12,671	882	3	11,268	518	4,842	—	6,426	518
22. Technical Drawing		19,154	4,265	61	14,029	799	4,909	2	9,120	797
23. Construction Studies		15,992	2,735	36	12,581	640	5,153	4	7,428	636
24. Home Economics (S.S.)		40,738	1,274	10,381	4,534	18,549	46	1,695	4,488	16,854
25. Home Economics (General)		1,121	61	455	155	450	40	91	115	359
26. Accounting		24,883	5,983	0,840	5,441	6,619	135	223	5,306	6,396
27. Business Organisation		46,131	10,200	12,797	11,009	12,125	226	423	10,783	11,702
28. Economics		12,560	4,923	2,082	3,364	2,191	247	42	3,117	2,149
29. Economic History		1,141	403	172	315	251	62	30	253	221
30. Art (with Design option)		16,514	2,302	4,944	4,181	5,087	90	290	4,091	4,797
31. Art (with Craftwork option)		5,905	70	1,537	1,693	1,965	68	112	1,625	1,853
32. Music A		1,557	123	861	146	427	27	105	119	322
33. Music B		887	89	451	80	267	19	168	61	99
34. Physical Education		77,936	14,481	25,124	20,428	17,903	1,395	580	19,033	17,323
35. Classical Studies		1,231	540	285	239	167	25	3	214	164
36. Computer Studies		35,684	5,241	11,494	9,931	9,018	1,182	409	8,749	8,609
Total Number of Pupils in the Leaving Certificate Programme		124,185	24,082	32,351	36,869	30,883	—	—	—	—

Explanatory Note In the cycle German is provided to 24,578 persons. In single sex schools German is provided to 4,654 boys and 8,092 girls respectively. In mixed schools German is provided to 6,003 boys and 5,829 girls. Within mixed schools, where German is provided to boys only, girls only or both sexes, 489 boys, 296 girls and 5,514 boys plus 5,533 girls respectively take it.

SOURCE: 1993/1994 Statistical Report, (Dublin: Stationery Office, 1995) p. 68.

Gender bias and the classroom

The teachers' methodology is a big factor in the aiding of successful co-education and single sex schooling. "Teaching may be conceived of as the way in which a teacher implements curricular plans." (42) The teacher has a great influence in the classroom, whether consciously or unconsciously.

The teacher and his/her methodology has an enormous influence on a group of students. Many studies have found that boys demand attention in the classroom situation more often than girls, and get it. (43) Teachers in Britain have also been found to exploit rivalry between the sexes in order to motivate pupils. Lessons are often composed with the male students in mind more than the female in order to keep attention and control within the classroom. Research has found that classes consisting mainly of girls tend to be taught more so through rote, whereas classes comprising of a majority of boys are more likely to consist of higher order intellectual activities, e.g. abstract problem solving. (44) This could be seen as either the teacher believing that males are more capable or, as said, a method of control and motivation.

Drudy & Lynch have also found that girls are not under achieving academically in the coeducational schools. (45) One could conclude that there is not enough substantial evidence to say that mixed schools have a detrimental effect on girls in general. It has also been found that girls are less spiteful around boys and quarrel less among themselves. (46)

An ESRI study done in 1983 by Hannan *et al* noted that of all the schools, boys single sex schools were the most sexist. Next came all-girls schools. (47)

Teachers tend to believe that the reason coeducational schools are not so sexist is because students are not as aware of the sex discrimination in education. This is

true to a certain extent, but it must be repeated that subject provision in mixed schools still has to be addressed.

Within the classroom situation, one must focus on the student teacher relationship. The teacher could go by a list of guidelines to ensure that s/he has a gender bias free classroom situation. S/he could examine and question the seating arrangements in the mixed school setting and perhaps mix the sexes accordingly. How are class rolls organised? Are they separated by gender or are they alphabetical? (48) If working in groups - who takes charge? The teacher must also be aware of the allocation of time s/he gives to each gender.

Language is of vital importance whether in the mixed or single sex school.

Students see and hear enough stereotypical language on the television, especially in advertisements. We have moved a long way from the 1950's type advertisements where women could dry their hair and cook at the same time while their husbands were out at work! Then again, those 1996 Bird's Eye Chicken advertisements and others are not far from that. Young people's response to the media will vary according to their social group membership, family, class and, of course, gender. (49) If speaking in the classroom about someone whose gender is not known for one reason or another, the teacher should not assume a gender, e.g. not to use the word 'he' for an artist, but make a conscious effort to say 'he' or 'she'. Equal praise should be given to the male or female student just as equal reprimands be given. Tasks should be apportioned equally regardless of type.

"The problem with gender is whether you concentrate on removing some of the more obvious inequities or whether you aim ultimately to tackle the root system".

(50) The root of the problem needs to be dealt with now. There is plenty of information to say that both single sex and mixed schooling affects students academic and social performance. Maybe by concentrating on the obvious

inequalities within the schools it will lead, naturally, to the breakdown of gender stereotyping.

FOOTNOTES CHAPTER 2

1. Vincent Greaney; Thomas Kellaghan. Equality of Opportunity in Irish Schools. (Dublin: The Educational Company, Ireland, 1984) p. 13.
2. Charting our Education Future. White Paper on Education. (Dublin: The Stationery Office, 1995) p. 43.
Not unlike Ireland's Primary Schools which are continuing to be coeducational. The Secondary Schools are either closing down or amalgamating.
Article - Gender equality in Education in the Republic of Ireland (1984-1991). (Dublin: The Stationery Office, 1992) p. 32. The information on the number of secondary schools in 1990 compared to now come from: David Alvey.
Irish Education, the case for secular reform (Dublin: Church & State books, 1991) p. 47.
3. Damian F. Hannan; Emer Smyth; John McCullagh; Richard O'Leary; Doreen McMahon. Coeducation & Gender Equality. (Dublin: The Economic & Social Research Institute (ESRI), 1996) p. 20.
4. Greaney. Equality of opportunity in Irish Schools. p. 15.
5. White Paper. Charting our Education Future. p. 43.
6. David Alvey. Irish Education. The case for secular reform. (Dublin: Church & State books, 1991). p. 54.
7. Greaney. Equality of Opportunity in Irish Schools. p. 15.
8. Alvey. Irish Education. p. 55.
9. Ibid., Irish Education. p. 55.
10. White Paper. Charting our Education Future. p. 44.
11. Ibid., p. 43.
12. Richard Pring. Personal & Social Education in the Curriculum. (London: Hodder & Stoughton Educational, 1984). p. 96.
13. Drudy & Lynch. *Irish Times Educational Supplement*. (Dublin: 3.10.95).

14. ESRI related report. Schooling and Sex Roles. (Dublin: Employment Equality Agency, 1984). p. 38.
15. Elliot Eisner. Educating Artistic Vision. (New York: Macmillan Publishing Co. 1972). p. 12.
16. Mary Mulvihill. European Conference on Gender across the curriculum. (E.C. Department of Education: Co. Clare, 1992). p. 28.
17. Damian F. Hannan. *Irish Times* 31.10.95.
18. Mary Mulvihill. European Conference on gender across the curriculum. p. 28.
19. Hannan. Coeducation & Gender Equality. p. 109.
20. Damian Hannan; Shortall. The quality of their education. (Dublin: The Economic & Social Research Institute, 1994).
21. Ibid., p. 167.
22. Hannan. Coeducation & Gender equality. p. 174.
23. Ibid., p. 10.
24. Cornelius Riordan. Girls & Boys in school, together or separate? (New York: Teachers College Press, 1990) p.55.
25. Hannan. Coeducation & Gender equality. p. 176.
26. Ibid., p. 28.
27. Alice Brown; John Fairley. Restructuring Education in Ireland. (Tralee: University of Edinburgh 1993) p. 31.
28. *Irish Times Educational Supplement*. 23.5.95.
29. At present there are two female principals in all boys schools, one in Dublin (Westland row) and the other in Waterford (CBS).
30. Hannan. Coeducation & Gender equality. p. 76.
31. *Irish Times Educational Supplement*. 23.5.95.
32. Riordan. Girls & Boys in school, together or separate? p. 52.

33. Commission of the European Community. Action Handbook - How to implement gender equality. (Dublin: The Stationery Office, 1985). p. 19.
34. Sheelagh Drudy; Kathleen Lynch. Schools & Society in Ireland. (1992) p. 172.
35. John Walsh. *Irish Times* 26.6.95
36. Hannan. Coeducation & Gender equality. p. 118.
37. Anthony Giddens. Sociology. (Cambridge: Polity Press, 1995). p. 144.
38. *Irish Times*. 23.5.95.
39. Paul Cullen. *Irish Times*. 23.11.95.
40. Hannan. Coeducation & Gender equality. p. 183.
41. Ibid., p. 162.
42. Eisner. Educating Artistic Vision. p. 179.
43. Drudy & Lynch. Schools & Society in Ireland. p. 198.
This applies to both primary and second level. *Irish Times*. 31.10.95.
44. Hannan. Coeducation & Gender equality. p. 33.
45. One can see here the comparison with our European counterparts who have a long tradition of co-education. *Irish Times*. 31.10.95. (Drudy & Lynch.
46. R.R. Dale. Mixed or single sex school - Volume II (London: Routeledge & Keegan Paul Ltd. 1971.) p. 83.
47. Drudy & Lynch. Schools & Society in Ireland. p. 202.
48. The European Union Action Research Programme on Equal Opportunity in Education sent out a survey to be completed by Primary Schools in September, 1994, concentrating on the influence of the "Hidden Curriculum" in shaping pupils attitudes. The research programme felt it necessary to look at the day to day administration and organisation of schools, to examine the behaviour of teachers and pupils, to identify areas where sex stereotyping may be occurring overtly or covertly and to take action. I am not aware of such a survey taking place on second level schools recently.

49. Tim O'Sullivan; Brian Dutton; Philip Rayner. Studying the Media, an Introduction. (Avon: Arnold, 1995). p. 154.
(see also pages 134-136 on how the male and female have been and still are perceived in general in the media.)
50. Jean Rudduck. Developing a gender policy in Secondary schools. (Buckingham: Open University Press, 1994.) p. 24.

CHAPTER 3

APPLYING GENDER EQUITY TO THE ART ROOM

As a female Trainee Art Teacher I have been aware of the problems facing teachers when it comes to teaching the two genders in an equal manner. (1) My aim is to be subtle as I do not want the students consciously to know what atmosphere I am trying to create. This, in my opinion, would only jeopardise the whole idea of gender equity from being something completely natural and right. Platonic relationships are extremely important as after schooling one must deal with the opposite sex on many different levels. Therefore it is vital that the male and female are given a guided education while in school, whether in mixed or single sex education.

The student needs self-confidence. If this is low it is more difficult for the student to relate to the opposite sex easily. The Green Paper on Education (2) states that "Education must contribute to the breakdown of stereotypes, to opening up of opportunities and to the growth and self esteem of all, irrespective of sex." Teachers questioned regarding the link between self-esteem and equal opportunities believe that there is little difference between the level of girls and boys. (3)

"In Ireland we concentrate too much on issues such as the control of education and not enough on what goes on inside schools, the processes that shape how our pupils think and interact with each other." (4)

Many of the methods or techniques I use in the art room can be applied to the various other subjects in the curriculum. I have not chosen a specific lesson scheme to go by with the students, except for my fourth year students, five of the seven being male. They were doing an embroidery project (see appendix 2 for

detail). I chose a more stereotypically female theme - embroidery. The students worked through a fourteen week project concentrating on texture and different ways of applying it. I compiled a note book recording the students' comments for/against embroidery, on each other and so on. I also took note of the observations etc. in my second and sixth year classes and will expand on them later.

Before discussing student-student and teacher-student interaction, the classroom itself must be taken into account. In my fourth year class there were originally twenty-six students. (5) After the fifth week I had only 2 girls and 5 boys, therefore the seating arrangements were organised so that all the students would be together in a semi-circle with the materials needed for work on a large table in the centre. They had a choice of seating as there were little or no boy-girl problems.

The second years, however, were seated in a boy-girl fashion in a large, almost semi-circle fashion (23 pupils - 10 girls, 13 boys). The teacher's desk is at the top of the room which I rarely used apart from calling the roll. This is because in the National College of Art and Design we have been advised by the lecturers to stand in front of the desk, walk around the room, not to cross our arms etc. as all of these contribute to student perception of a teacher who is not approachable. I am also a believer in a progressive education where the students' needs are an integral part of the curriculum. "Teaching may be conceived as the way in which a teacher implements curricular plans". (6)

The set up of the actual art room should be student friendly, where they have access to art history books, if not in the classroom, then in the Library. The art teacher should always make an effort to have information on the old and the new contemporary female artists. The walls should be bright with educational posters, information on artists, art periods and the students work.

Group work

How can active group work be beneficial to students, especially those in second level? Through my teaching practice I have aimed to clarify some of the benefits focusing on the male/female relationship. Lesley Button believes that group work is, "about helping children in their growth and development, in their social skills, their personal resources and the kind of relationships they establish with other people. (7) This, I found, especially evident in the second project conducted with my second year students. They matured greatly when it came to forming a relationship of respect with the opposite sex as the scheme progressed. In this project the second years were placed in groups where I felt they could learn from each other. Initially most were unhappy with their pre-chosen partners, which was probably due to their partner being of the opposite sex. Some educators believe that students do not need artificial grouping systems and students enjoy and want to be together. (8) It is true that students enjoy each other's company and have a need to be together but in early second level education many students find it difficult to communicate with the opposite sex. Therefore, it is up to the teacher to encourage mixing and thus promoting a natural classroom setting. This need not only be practised in the art room, it can be continued in all subjects.

The transition year students worked in a group. My aim here was not to mix the sexes as much as educate the male and female students that embroidery can be a form of art without it being a 'girl's only' subject. This kind of group work had the students working together, but on individual pieces with an identical theme, and could be referred to as 'organisational group work'. (9) 'Educational group work' (10) where pupils are actively engaged in a task requiring co-operation and pooling of resources to produce an end product, was used both on my sixth and second years'. Both types of group work promote mutual respect among students. (11)

As a teacher I find it is very important that one sets the atmosphere of a classroom. One should encourage student interaction by treating students equally, regardless of ability, social class or gender. "A group centred education is a direct response to the idea of a child centred education, how to work with others, co-operate, how to be a useful member of a group". (12) Throughout life people come in contact with one another. The importance of communication is clear and problems can be evident when dealing with the opposite sex.

"A teacher should pass on information and thus encourage students to learn both independently and as a member of a group". (13) Working with students in such a way is one of my aims when teaching as it promotes interaction of the genders and the formation of a mutual respect.

Second Year - Project 1.

In this class of 23, 13 are boys and 10 are girls. One of my first observations was that the boys seemed to be more immature. This could have been due to the fact that they were more outspoken than the girls. International research on co-education shows that teachers attend more to the boys. Boys volunteer more answers to questions therefore getting more notice. Teachers also are found to ask boys higher order questions. Research in Irish schools currently near completion in St. Patricks college in Maynooth indicates that Irish classroom practice reflects international findings.

The group were introduced to the project through the discussion of packaging consumerism and so on. We discussed areas they would be familiar with like super market displays, fashion tags etc. so to promote ideas (see appendix 1 for detail). They began by experimenting with type, letter spacing and then choosing an appropriate type face for their logo, whether copied or made up. For the main part

of the project I recorded conversations, or incidents of relevance referring to any type of gender differences or inequalities.

On differences between the genders I found that the boys questioned me a lot more than the girls. It was as if they wanted me to approve of their progress, step by step. Sometimes it was obvious that they just wanted the attention. One particular boy questioned me approximately every two minutes one day in class. Anything I explained to the class I would have to explain to him separately. After about the fifth question I asked other students the question he asked. I then advised him to ask the person sitting beside him to answer his queries. I feel that he lacks confidence and just needs approval. He also does not communicate well with the opposite sex and has few male friends in the class, but is not at all shy around them and likes to speak his mind.

During the phase of the project where the students had to record on a piece of cardboard the measurements of the shoe box one of the girls announced at the top of her voice that she was 'weak' and could not cut out the stencil. I was quite astonished and got one of the girls who had finished to help her cut into the cardboard. I purposely chose another girl to help with the cutting so that the rest of the class could see that not all girls are 'weak'. I would also expect a girl to move a table just as much as I would expect a boy to do so.

Being a female teacher I am conscious of questioning both boys and girls equally with both receiving an equal amount of higher order questions. Hamilton (14) conducted a study on the school environment and found that teachers in mixed schools showed a preference for male students over female. In this second year class as well as the other classes I teach (6th, 5th and 4th) the boys are more confident with their work and are willing to display it at any stage. The girls, especially 2nd years, prefer it displayed when it is finished. It is important to value

all children equally, irrespective of ability (15) and treat them equally, I have encouraged the girls to show off their work to help others who may lack inspiration or confidence.

The lack of confidence among many girls and some boys in their work may be more evident in art as they are recording something visually more than with a pen and paper, therefore more personal to a certain extent. A humorous incident occurred when taking photographs of the second year students at work - some of the female students wanted to hide themselves and their work, whereas many proud males posed and held their work at an angle to help me! This could suggest that the girls were more immature and self-conscious, or/and more lacking in self esteem.

The boy-girl seating arrangements improved interaction between the sexes. Both complained equally about not being allowed sit with their usual friends. However I observed that more work was done by both sexes, in particular the girls, who also became more original in their ideas. This system encouraged the students to guide and be guided in a more relaxed manner. No longer did the girls keep away from the louder boys, now they could almost be classed as friends. It was not intentional but I tended to place quieter girls beside louder boys and vice versa. This was quite successful. I feel that they are good for each other. One strange thing I noticed is that no noticeable bullying went on in the class - if two students fought (usually a girl and boy) they were both well able for each other and neither appeared to come out the worse for it.

By the end of this project the students gained an understanding of individuality and interaction with the opposite sex, (see fig. 1). Individuality was evident in the way that their work was not similar to their friends due to the new seating arrangements. The genders learned from each other through self evaluations of their work and

FIGURE 1
A GROUP OF SECOND YEAR STUDENTS ORGANISING THEIR
COMPLETED SHOEBOXES FOR DISPLAY



discussions on how they could improve design wise and why. They were also encouraged to consult the person sitting next to them for ideas, help etc. before approaching me. This, I feel, had some influence on the students' growth. After Christmas they began a puppetry project where the students were put into groups.

Transition Year

"Group-centred education is a direct response to the idea of child-centred education. The most important thing you can teach, the theory goes, is how to work with others, how to co-operate, how to be a useful member of a group." (16)

The transition year students as said consisted of two girls and five boys. Their embroidery project was a group project (see Appendix 2). They were encouraged to work together and help each other, even though they worked on separate pieces. I felt this to be beneficial as the students have not done any art since primary school. Another reason for choosing a method such as embroidery, besides it being a stereotypical female subject, was to keep the students free from the confinements that a pen or pencil can give. Instead they were working hands-on most of the time and they were learning some valuable techniques along the way.

The students needed plenty of encouragement. They were of very different academic abilities and social backgrounds. The art class was the only class in which they were together. In the beginning I got a few comments like "This is what my grandmother does at home" from a male student. The same boy always had trouble threading his needle (eventually he was given a larger one to work with). Another male student showed his protest to the subject by using materials quite untypical for embroidery, e.g. a spoon, a zip, wire and so on. I encouraged this and displayed his work to the others in the class. It was pointed out that originality was important and that if it meant putting 'weird things' into the

embroidery do so, once the objects had an interesting texture and the colours balanced well alongside their other sections.

When giving class introductions I always made an effort to have relevant works of both male and female artists. Class discussion was encouraged where could give each other advice and critically assess their own progress. They were not as vocal or open as the second years and more shy about their work. Their confidence in the subject was low, which is quite natural due to not having done the subject for many years. I constantly encouraged them by brainstorming for ideas on a regular basis, through questioning, discussions and various other tactics so to promote student interaction, motivation, etc.

My observations with this class do not deal with gender equity so much as with how the male students cope with a stereotypically female subject, (see fig. 2 & 3). The girls and boys related well to each other. The girls seem to be more mature when communicating with the opposite sex. Three out of the five boys were more shy, two of whom jeered their own sex which, to a certain extent, was a means of communication.

By the end of the project the finished wall hanging was to be displayed in the main hall. All the students asked that I not put their names beside the piece as they would be 'slagged' by their friends. I, of course, did not agree as I was very proud of them. Obviously they did not mean it as they would have taken down the list if it had really bothered them! One of the boys who asked me to leave his name out of the list was the only person to actually embroider initials of his name into the centre of his piece!

The transition year students' ability in art was clear in their final pieces. They have a lot of potential and all want to continue with art for their Leaving Certificate.

FIGURE 2

TRANSITION YEAR STUDENTS AT WORK ON EMBROIDERIES

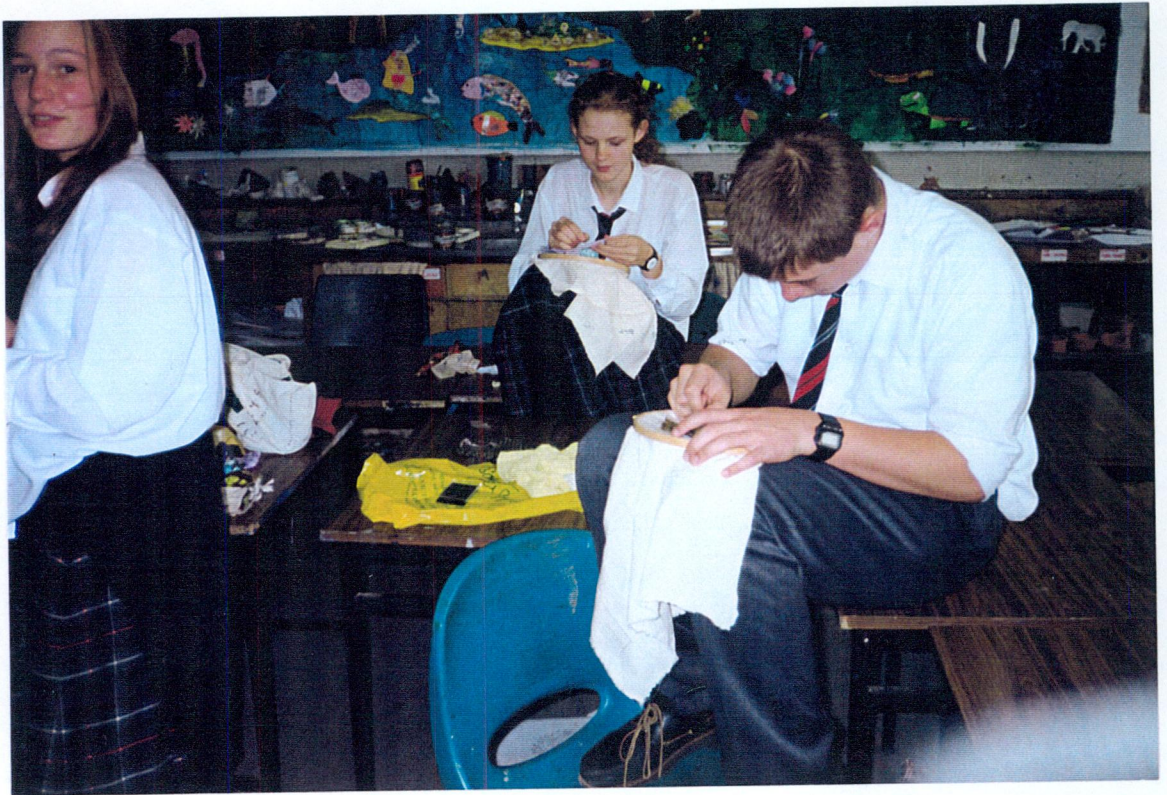


FIGURE 3

TRANSITION YEAR STUDENTS APPLYING DYES TO THEIR WORK



They were worried about being behind but were told that with work they could catch up. I feel that by the end of the scheme both the females and males learned a great deal from each other, thus realising embroidery is not only a form of art but it is not just for girls.

Form 6

In general this class has a very high ability in the art subject. Nine students (4 boys and 5 girls) want to continue with art into third level and are quite serious workers. The remaining students are quite knowledgeable in the subject.

The class period is only thirty-five minutes long and is allocated predominantly to life drawing. The scheme, titled 'peace' was a group project, (See Appendix 3 for detail). I did not want to be the purely authoritative figure of organisation and through group work the students would solve problems amongst themselves therefore not relying on the teacher to such an extent. I wanted the class to be student centred where they could be more flexible and democratic (17). I want to be the on-looker giving advice, information, promoting motivation when needed. This has been quite successful as the class in general are very mature and serious about their art. (See fig. 4).

There are more artistically skilled than unskilled students in the class. I am constantly aware of the mixed abilities and guidance is given without shattering the confidence of the less able. One girl complained that she was 'no good' at the subject compared with everybody else. Firstly she has some problems with proportions of the human body but her touch and style is quite innovative. I explained that she should not compare herself to others as that would inhibit her further, and to concentrate on the things she can do. I then gave her homework on just concentrating on one problematic aspect at a time. The following week she came in with many sketches and finished drawings of her hand in different

FIGURE 4

SIXTH YEAR STUDENTS WORKING TOGETHER
TO DECIDE ON A GROUP POSE



positions. Although a difficult subject to choose she improved greatly. Her work has progressed considerably in the classroom situation. As a result of this exercise a number of students approached me after class with their different problems in life drawing. It was noticeable that the girls found it easier to admit having difficulties.

Although the students are quite mature, there have been problems relating to gender inequalities. In the early stages of the project the girls constantly did the organising even when I allocated one male and one female to take charge of organising a group pose. I have observed that the boys in general are always last to get into a pose, and the last to organise themselves, many of the girls being very intolerant of this. When it came to the males getting into position the females nagged the 'laggards' into position! On the other hand the girls tended to come into class chattering and also tend actually to chat more while working than the boys. I do not stop this once the work is being done. Besides, there is less talk while drawing is in progress. The progression from drawing to the three dimensional stage of chicken wire manipulation began in mid January. Through the use of visual aids and demonstrations the students were shown how to work with the wire. From their research drawings, and sometimes their actual partners posing, the students manipulated the wire, making suitable forms of their model.

It was very interesting to note that those who were not as strong in drawing excelled those who were, especially those who were more graphic in technique. However, many factors affected the steady progress of this project - mock exams. orals etc.

A notable observation was that those males who had problems with the project made little effort to make a well proportioned accurate figure. Whereas girls in difficulty made more of an effort to construct an accurate figure. The boys in trouble made it look as if they had no interest in working in three dimensions.

They did not pay much attention to demonstrations, discussions on progress and so on. The girls, on the other hand, had no hesitation in asking for assistance - in which case I would generally give a class demonstration. However, while many of the boys who had difficulty manipulating the wire had a good two dimensional ability, they reacted negatively to the three dimensional task. This was probably due to a sudden lack of confidence and an unwillingness to appear incompetent.

These sixth years', particularly the males, initially were not as willing to learn from each other as readily as second or transition years. As their teacher I felt it my duty to encourage them to look at and critically discuss each others' work. This resulted in a successful outcome, producing positive interaction between the genders.

Second years - project II

The second project was more focused on specific group work. It is thought that children can find success, and maybe independence, when working in a group situation. (18) In a classroom situation students could become lost or isolated if working individually. This is probably more true for the quieter or shyer students.

From the research work completed in the first two weeks of the scheme the students were put into pairs, mainly boy/girl. (See appendix 4 for detail). This grouping was in accordance with ability. Those strong in pattern were put with those exceeding in ability to portray form. Both groupings were made feel equally important. I feel that the groups chosen were very successful as I have seen students grow and learn from each other. The male and female students became so much more comfortable with each other. This was not an automatic transformation. At first they complained about being put with 'him'/'her' and continued to question me on a given task. I had to be firm and refuse to answer questions that they and their partners could solve.

The class, as a whole, worked as a group when it came to collecting relevant information for their support studies note book. Here I observed that the girls were quicker to find and process information. They also presented their note books in a neater fashion than the boys. Equal division of tasks between the pairs was a priority. (See fig. 5). I encouraged students to take turns in tasks, e.g. sawing materials, gluing and sewing. I noticed that when it came to sewing girls were first to take it on. This could have been due to the boys having had no experience. I gave a demonstration to rectify this.

Within this class I observed that the boys were either perfectionists or gave up easily without stimulation or encouragement. The girls were more consistent, there were fewer perfectionists but a small number abandoned their efforts easily. I was surprised to note that for the most part there were no conflicts of personalities within the groups as the project progressed.

Through this limited research in the art classroom I have noted many differences and similarities between boys and girls. The differences I found can be overcome through the way the subject is taught. This, in my opinion, can break down the barriers of gender inequity in education. Similarities between the sexes should be both encouraged and reinforced subtly.

FIGURE 5

SECOND YEAR STUDENTS AT WORK ON THEIR PUPPETRY PROJECT



FOOTNOTES CHAPTER 3.

1. It has been found that gender-differentiated treatment by teachers of girls and boys within the same classroom may significantly affect the equality of outcomes.
Damian F. Hannan; Emer Smyth; John McCullagh;
Richard O'Leary; Doreen McMahon. Coeducation & Gender Equality. (Dublin: The Economic & Social Research Institute (ESRI), 1996. p. 31.
2. Senator Joe O'Toole (Irish National Teachers' Organisation). Enhancing self-esteem. (Dublin: I.N.T.O. Publication, 1995.
3. Ibid., Enhancing self-esteem. p. 68.
4. John Walsh. *Irish Independent*. 26.6.95.
5. There were 26 students for the first five weeks of term due to there being no First Aid Class organised for these extra students. The status of Art in second level education is something that needs also to be questioned.
6. Elliot Eisner. Educating Artistic Vision. (London: Collier MacMillan Publishers, 1972). p. 179.
7. Jill Baldwin; Harry Wells. Active Tutorial Work. (Lancashire: Basil Blackwell Publishers, 1983). p. 1.
8. David Gribble. Considering Children. (London: Porling Kindersley Ltd., 1985). p. 73.
9. E.C. Wragg. Classroom Teaching Skills. (Kent: Nichols Publishing Company, 1984). p. 151.
10. Ibid., p. 150.
11. Gribble. Considering Children. p. 122.
12. Ibid., p. 72.
13. Wragg. Classroom Teaching Skills. p. 2.
14. Joan Hanafin; Dearbhal Ni Charthaig. Co-education and Attainment: A research summary. (Limerick: Centre for studies in gender education, 1993). p. 10.
15. O'Toole. Enhancing self-esteem. p. 65.

16. David Gribble. Considering Children. (London: Porling Kindersley Ltd., 1985). p. 72.
17. Aine Hyland. Irish Educational Studies. (Cork: Educational Study's Association of Ireland, 1995). p. 24.
18. Wragg. Classroom Teaching Skills. p. 152.

CHAPTER 4

CONCLUSIONS AND RECOMMENDATIONS

"In Ireland we concentrate too much on issues such as control of education and not enough on what goes on inside schools, the processes that shape how our pupils interact with each other". (1) Throughout this dissertation I have questioned and discussed the factors that can affect the performance of students today, with a focus on gender inequality within the second level schools.

The origins of stereotyping in relation to males and females was looked at in some detail. It has been observed that by the time pupils arrive in school "they have 'already acquired personal baggage' that affects the way they look at things and their freedom of choice". (2) Teachers are said also to bring similar baggage with them. It should be the role of the teacher to put an end to any stereotypical notions girls and boys may have with each other in both primary and second level schools. This would be quite difficult if the teacher has preconceived notions of roles of the sexes.

A large number of studies have found that gender inequalities in both achievement and differentiation affect the type of education students receive. (3)

In the methodology chapter (Chapter III) issues that affect gender inequity are looked at. Although mixed ability is dealt with to some extent, 'these' studies do not find it a major contribution to gender bias, just as the different social backgrounds of the students have little relevance in the art classroom.

The teacher needs to be educated on the importance and necessity of applying gender equity in the schooling system. This is so to provide pupils with a healthy personal and social development. This could be underlined through emphasising issues in teacher training and in service training.

The school is a place where the child is exposed to a wide range of experiences and is encouraged to develop his or her own ideas and opinions. The school is a place where the child is encouraged to express his or her own ideas and opinions and to develop his or her own ideas and opinions. The school is a place where the child is encouraged to express his or her own ideas and opinions and to develop his or her own ideas and opinions.

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The State Policy for gender equity in education has been clearly emphasised in the *Green Paper* (1992) and the *Report of the National Education Convention* (1994) and, to a lesser extent, the *White Paper* (1995). Many aspects of the curriculum and hidden curriculum need to be addressed as a teacher and her/his methodology is not going to change the system. The root of the system has to be tackled, uprooted and changed. So many factors effect the education of students today, gender inequalities being only one.

Finally, care should be taken to ensure that any policy introduced to foster gender equity in education is implemented carefully so as not to create a possible negative counter-reaction.

The first factor for consideration in this situation has been already mentioned in the
previous report (1977) and the second factor of the present study is the third factor (1977)
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and the fifteenth factor (1977) and the sixteenth factor (1977) and the seventeenth factor (1977)
and the eighteenth factor (1977) and the nineteenth factor (1977) and the twentieth factor (1977)

The first factor of the present study is the second factor of the present study and the third factor of the present study
and the fourth factor of the present study and the fifth factor of the present study and the sixth factor of the present study
and the seventh factor of the present study and the eighth factor of the present study and the ninth factor of the present study
and the tenth factor of the present study and the eleventh factor of the present study and the twelfth factor of the present study
and the thirteenth factor of the present study and the fourteenth factor of the present study and the fifteenth factor of the present study
and the sixteenth factor of the present study and the seventeenth factor of the present study and the eighteenth factor of the present study
and the nineteenth factor of the present study and the twentieth factor of the present study

FOOTNOTES

CONCLUSIONS AND RECOMMENDATIONS

1. *Irish Independent*. 26.6.95
2. Ruddock, Jean. Developing a Gender Policy in Secondary Schools. (Buckingham: Open University Press, 1994) p. 126
3. Hannan, Damien F.; Smyth, Emer; McCullagh, John; O'Leary, Richard; McMahon, Doreen. Coeducation and Gender Equality. (Dublin: ESRI, 1996) p. 17.

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APPENDICES

1. Second Year - Project I, (Lesson Scheme).
2. Transition Year (Lesson Scheme).
3. Sixth Year (Lesson Scheme).
4. Second Year - Project II, (Lesson Scheme).

APPENDIX & LIST

APPENDIX I

School:	Co-educational Secondary School
Form:	Year 2
No. of students:	23 - 10 girls & 13 boys
Ability:	Mixed
No. of classes:	11 eighty minute classes.
Actual Project:	Graphics - the construction of a Shoe Box
General Aim:	For the students to acquire a knowledge of advertising through the process of designing a shoe box.

End product: An actual shoe box.

Description: The students were introduced to this project in the hope that they would gain an insight into the world of advertising and mass production.

The students explored a variety of forms of lettering from the basic sans-serif to emotive to that used in advertising. All information was recorded in their support studies sum copies, whether from magazines, packaging, their own class work, ideas etc. Every week the work was re-evaluated so that students would learn from each other and gain a skill in being critical of their work.

The students moved on to designing a name for their shoe shop and to drawing their shoes from observation. They were limited to using two colours, thus reinforcing the emphasis of mass production. The next stage was to work on the incorporation of their design and logo in a harmonious way.

When it came to the actual construction of the shoe boxes, which were made of thin cardboard, the area of technical design was dealt with in some detail.

For the final part of the project the students were placed into groups to present the shoe boxes in an innovative way, suitable for window display.

APPENDIX II

School: Coeducational Secondary School.
 Form: Transition Year.
 No. of students: 7. (The students rotate in blocks.)
 2 girls, 5 boys.
 Ability: Mixed, no previous art experience in Second level
 schooling.
 Number of classes: 14 double classes

Theme: "Dissection".

General Aim: For the students to gain an understanding of visual and tactile texture and their appliance through the method of embroidery.

End product: Wall hanging of the students' embroidered pieces sewn together. The overall size being larger than A1.

Description: Each week a new learning objective was introduced, whether through class discussion, using visual aids, giving demonstrations and so on. I encouraged the students to speak up and give their opinions as much as possible whether talking about their own work and progress or that of artists etc. This also helped promote student-student and student-teacher interaction.

The first week the students had to dissect fruit, observe and draw it with chalk or oil pastels. They were given both an introduction to, and demonstration in, pastels. They had to fill the page (A2) with the fruit. This was so they could record as much detail as possible with more freedom. Many art elements were introduced such as line, shape, tone, texture and form. The results were surprisingly good considering their lack of knowledge in the subject.

The second week the students dealt with visual texture in more detail, by portraying it with paint using various found objects. The project progressed to their making tactile texture through paper manipulation. This went on for three weeks. By this stage it was hoped that the students had an adequate knowledge in the making, manipulation, copying and so on of many types of texture.

In the second period of the fifth week the students were introduced to embroidery through visual aids, such as slides and actual embroideries. The embroideries shown, such as banners, wall hangings were chosen because of the colours, interesting techniques and the overall compositions. All work displayed was by both male and female artists. These were to motivate the students and to make them aware of the interesting end products. I did not want them to have the traditional idea of embroidery in mind. They were encouraged to use a wide range of found materials such as twigs, wire, etc. I gave a demonstration on how to stretch the material onto the frame.

Once the embroidery had begun I gave a different demonstration each week on various techniques. Dyes were eventually introduced to give more variety to the pieces. Towards the end of the project the students had to decide what way the piece was going to be hung and how each of the pieces could be present to give a well balanced visually stimulating composition that would compliment each others work.

APPENDIX III

School:	Coeducational Secondary School.
Form:	Year 6.
No. of Students:	16 (10 girls, 6 boys).
Ability:	Mixed.
Duration of class:	40 minutes per week.
Theme:	"Peace"
General Aim:	For the students to become aware of the proportions of the human body through life drawing and 3D figure manipulation.
End Product:	For the students to make a 3D figure each (With the use of chicken wire and plaster of paris), thus finishing up with a group scene.

Description: This class was originally time-tabled to be a life drawing class.

The project was introduced to the students with a focus on proportion leading to gestural drawing and figures in movement.

The development of the sequence has been slow moving due to a number of factors - the class is confined to a 40 minute period and I have been teaching art elements relating to life drawing in some depth with the aid of visual aids, support studies and many art history references, as I feel it important that the students learn about life drawing through the ages.

The theme 'peace' was chosen as the students' finished piece will be a 3D group scene of figures making gestures to support the theme. The first stage was drawings of their partner in a gestural pose at various angles. They also had to continue sketching group scenes so as to define the positive and negative space around their partner. The students stuck rigidly to working as a team, which was helpful to their work. From their drawings, and sometimes the actual model posing, the students began to manipulate the wire. This was a stage where the students worked considerably close to each other. The sculptures were then covered with plaster of paris that helped define form, creases in clothes etc.

APPENDIX IV

School:	Co-educational secondary school
Form: 2	Project 2, Puppetry
No. of students:	23 - 10 girls & 13 boys
Ability:	Mixed
No. of classes:	10 eighty minute classes

General Aim: For the students to acquire a knowledge of pattern, form and movement through the construction of Marionettes.

Theme: Animal Magic

Description: The students were put into pairs for this project so that they learned to work and co-operate in a group situation.

The students were introduced to pattern and shape through the process of life drawing, which inevitably led to form. They were then put into pairs with one student being strong in form and the other in pattern.

The research work derived from the National History Museum led to their making a design suitable for the construction of a marionette. Each pair pulled their resources together to make an overall design of their chosen animal.

The next stage was to begin the actual construction using a variety of techniques such as papier mache, chicken wire manipulation, tights, etc. so to make facial features and other parts of the body. Resources from the woodwork room were used to saw various materials to size. All research work, support studies, techniques etc. were documented in a scrap book by the students. The end product consisted of well balanced, moveable marionettes varying between A3 and A2 in size.

The students then held a play with each person in a group talking and making the marionette mobile. The importance of team work and good organisation was carried through to the end of the project.

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