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COLAISTE NAISIUNTA EALINE IS DEARTHA NATIONAL COLLEGE OF ART AND DESIGN FACULTY OF EDUCATION

A STUDY OF DESIGN EDUCATION IN ART, CRAFT, DESIGN AT POST-PRIMARY LEVEL IN IRELAND

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Introduction

'Design emphasises planning, problem-solving and completion, using drawing as a means of thinking'

The Art, Craft, Design syllabus for junior cycle was initially implemented in 1989 and the first set of students were examined in 1992. This disseration is a discussion of the new syllabus and a consideration of its impact on pupils with specific reference to the design element of the curriculum, using the second year junior cycle class in Belvedere College as a case study.

This study will look at design education and discuss the its learning potential at Junior Certificate level. In Art, Craft, Design, design has been encouraged to be viewed as a complete process. Is it not more accurate to look at design education at junior cycle as a series of developing stages and disciplines/skills, each being learning processes in themselves which together serve as a grounding to develop the individual with as many artistic and creative skills as possible?

Literature Review

The recent introduction of the Art, Craft, Design syllabus at Junior Certificate level has meant that with a few notable examples, there is little written on the subject in Ireland. The core text itself-the Art, Craft, Design syllabus, and the accompanying *Guidelines for teachers* - both published by the Department of Education, will be extensively quoted in this discussion. The three articles, by Iseult McCarthy, Kieran Meagher and Clodagh Holohan, which appear in *The Changing Curriculum* represent almost the entire sum of work written on the new syllabus. The concept of design education or 'design technology' has had a longer history in the English

¹ An Roinn Oideachais, The Junior Certificate: Art, Craft, Design Syllabus, (Dublin: The Stationery Office. n.d.), p.1.

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educational system and as such a greater body of work has been published there. This material provides a useful basis for this discussion. In particular I will refer to the work of David Thistlewood, Bernard Aylward and Peter Green - all of whom have written extensively on the role of design education in English curriculum. In this way I hope to discuss, using a case study, the recent introduction of design education to the Junior Certificate curriculum and what educational value this can provide for pupils. States of the state of as well a grader body of our basisten published takes. The state of posides a method body for the discussion in path of a state of the state of this the wood. This the wood the state of the state of the states of the state of

CHAPTER 1

The Role of Design Education at Junior Cycle Level

Design awareness and appreciation is an area that is largely undervalued in Irish society. As a consequence there has been, until recently, little regard for design in the post-primary system of education in Ireland. It is not the situation that, as a nation, we lack the ability to design but rather that we have not realised the value and importance of design in general, and hence the value and purpose of design education. This chapter will examine the role of design education at junior cycle while specifically considering design through three dimensional work within Art, Craft, Design syllabus.

In order to fully appreciate the importance of design education it is necessary to begin by briefly examining what is understood by the term 'design'. Design is the creation of something to fulfil human needs or functions, and is constantly adapted and updated to suit the needs of our modern and ever changing society. Situations change with such speed that there is an immense need for creative minds to adapt and develop to satisfy new conditions and the demands of society. David Thistlewood notes that "each generation must pass on the ability to design. This encompasses the origination of new artifacts and applications, the refining of existing ones, and the knowledge not to interfere with the ones that have been perfected over centuries of use." ¹

Design plays an important role in society and our direct environment. Design also makes a huge visual and practical contribution to our

¹Thistlewood, David, "The Essential Disciplines in Design Education" in *Issues in Design Education*, idem, ed, (London, Longman, 1990), p.14

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Nation as accors and appreciation is an mean that is largely under place in that such a consequence them has been until reputity little regard for a captor the preparent system of equation in frelade since and the stratent of the preparent system of equation in frelade since that is have not realised the value and importance of design but reflect and two the value and mergore of design education. This chapter will end two the value and mergore of design education. This chapter will end two the value of design education at property or while spectral considering reacy, through three dimensional works while spectral considering testing through three dimensional works while spectrals.

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Design plays in important role in boolehy and our differ as in inner: Best, also halkes if Ingrenand and practical contribution through

⁽This is an additional of the transmit Disciplination Design "Iducation" in Long et Design Chastler

environment. Bruce Archer defines design by stating that it

is that area of human experience, skill and knowledge that reflects man's concern with the application and adaption of his surroundings in the light of his material and spiritual needs. In particular it relates with configuration, composition, meaning, value and purpose in man-made phenomena. ²

Generally speaking public awareness of design in the environment is lacking. Design obviously involves human interaction in many ways. Design encompasses a wide range of products and utilities. Not only does design include two dimensional matter such as Graphic Design but architectural and engineering projects also pass through the hands of a designer; more importantly, it is necessary to mention the effect of design within society. The consequence of bad planning and designing can have rippled effects throughout a community, such as chaos caused by unplanned parking facilities, no wheelchair access to buildings or even unattractive surroundings through the fault of poor interior design.

Bernard Aylward has reflected this in his argument:

Pollution is evidence of man's unthinking effect on his environment. There are also many ways in which he can change it deliberately, by building dams, artificial lakes, motorways and tunnels, by afforestation and deforestation, diversion of rivers and irrigation, all of which have tremendous influence on the environment. This increased power available to make these changes requires greater responsibility and a better understanding of the human consequences. The conflict between technology is a neutral force. Yet technology can only be used beneficially if those responsible (in a democracy, that is everybody) have some understanding of the way design decisions can be made.³

Environmental design is directly a result of decisions made by humans for humans. It is vitally important that members of a society are involved in decision making in a community.

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²Baynes, Ken, "Defining a Design Dimension of the Curriculum" in *Issues in Design Education*, p.53.

³Aylward, Bernard, idem, ed, Design Education in Schools. (London: Evans, 1973), p.25.

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Therefore the definition of design is extensive. To design is to plan and to meet the demands of a brief, a market or possibly an audience. It communicates ideas or provides a service. The activity of designing in specialised areas requires knowledge and skill. An architect plans and designs buildings which in themselves serve a certain function and need. An engineer works with an architect to provide specific services in a building. These designers often work in conjunction with interior designers, industrial designers, urban designers, landscape designers, town planners, structural and civil engineers.

Ephemeral or "Fast food" style design can be used to describe the work of those involved in the disciplines of graphic communications, advertising, set design, industrial design, exhibition design and window display, to name but a few. The items these people produce make a large proportion our daily exposure to design are continually renewable. There is a bombardment of visual images which saturate our environment. Consumer products have been designed by advertising agencies to be consumed. A huge amount of market research and planning goes into the creation of advertising images and finally the product is designed in such a package as to render it irresistible. Advertising always operates with specific target audiences in mind, whether it be a youth market (buying products that will make them acceptable amongst their peers) or someone who works in the home (who needs to be convinced that one brand of detregent is superior to another). These highly customized advertising images cause controversy because of their effect on the consumer. One must remember these are a ploy by advertisers/designers to promote consumerism. Design and market forces use designers' ability to create powerful imagery to sell goods. We are surrounded by such imagery. Because of its importance in our lives, understanding design should occupy a more central role in the school curriculum and pupils' general education.

The Argument for Design Education

The argument for design education in post primary schools begins simply with the fact that we are involved with and surrounded by design on a To return the determinent of deserves states were to decome to plan and to mere the decomplete of a intervelop market or possible at addedices. I contranscole, show or provides a service. The activity of decigante or spectalised areas and include and shifts. An architect plane and designs but has were than the market essence a certain much need need. In contrast, the decigance of the method is provide the specific service intervelop descriptions designer of the much of the provide the specific services intervelop descriptions designer of the much designers had set and set and set of the method of the set of the set of the section of the specific services intervelop descriptions designer of the much designer works in a find state of the set of the section of the set of the description of the set of the description of the set of the set of the set of the set of the description of the set of the set of the set of the set of the description of the set of the set of the set of the set of the description of the set of the set of the set of the set of the description of the set of the set of the set of the set of the description of the set of the set of the set of the set of the description of the set of the set of the set of the set of the description of the set of the set of the set of the set of the description of the set of the description of the set of

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In Argument for Design Education

The result of the design of that on it, post primary schools begins simply with the last both we are involved, with and surrounded by design on a

daily basis. An art education introduces young people to a creative visual exploration of materials and methods, through which they will evolve a new informed way of relating to their environment and an awareness of design. Not only do we want a visually informed society emerging from the school system but we also wish to equip pupils with the confidence, skills and knowledge for them to be able to make a contribution to their community.

For design to be applied in the environment in a creative, practical and functional manner, society has to be educated and made aware accordingly. Ken Baynes feels that the primary aim of design in general is to develop everybody's design awareness so that they can

- enjoy with understanding and insight the man-made world of places, products and images;
- take part in the personal and public design decisions that affect their lives and the life of the community;
- design and criticise design at their own level for their material and spiritual needs;
- bring an understanding of design into their work.⁴

Design Education should develop in the individual's confidence, critical analysis and input into his/her visual surroundings. Learning about the process of design should develop an ability to assess proposals affecting individuals and society and effect constructive responses rather than no reaction to changes.

Bernard Alyward feels that

a knowledge of the way in which decisions are made regarding artifacts and systems is essential to the individuals who make up the community. The making of these decisions is the process called designing. This is the justification for the inclusion of design in the general education of all pupils.⁵

David Thistlewood backs up this statement by mentioning the historic

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⁴Baynes, "Defining a Design Dimension of the Curriculum" in *Issues in Design Education*, p.55.

⁵Aylward, Design Education in Schools, p.15.

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process of design beginning "with the adaption of furs and having begun when flints were used to skin carcasses cleanly instead of tearing with teeth and fingers; it is equally evident today in millions of routine applications from opening cans to accessing the cores of nuclear reactors." ⁶

Peter Green makes a relevant point with relation to the approach to design education. He states that "at school level we may begin by isolating simple human needs within young people's experience, rather than considering all the many complex issues planners have to consider."⁷

It is most important that within an educational system encompassing design, that consideration must first and foremost be given to the learning content for the individual. Pupils must be introduced to structured learning processes. This will develop pupils' understanding of the nature of designing. Learning must also involve the teaching of disciplines and skills within the process of design. Pupils should be taught techniques in mastering various materials within a formulated design structure. Robert Clement feels that

the crucial factor is always how well the teachers resolve that conflict between the need for children to have on the one hand a general understanding of the principles of making and designing, and on the other, sufficient time to develop skills and confidence to engage in craft with some authority. ⁸

In education there needs to be a balance between following an organised design process while also using each stage as a learning process within itself. It is not just about creating a finished work. Each stage of the process should help pupils develop skills and techniques in that medium or area. These skills and techniques can be built upon and developed through a variety of media, while following different projects. The Art, Craft, Design: Guidelines for Teachers states that "there must be a balance between

⁶ Thistlewood, "The Essential Disciplines in Design Education" p.14

⁷ Green. Peter, Design Education: Problem Solving and Visual Experience, (London: Anchor Press, 1974), p.90.

⁸ Clement, Robert, "Developing Craft Activities in Schools", in Issues in Design Education, p.99.

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process and product in the teaching and learning of design". [°] This point will be returned to later with more practical reference in Chapter Two.

Design Education at Junior Cycle in Post Primary Schools.

In an Irish context the Junior Certificate syllabus of Art, Craft, Design has made positive progress in promoting design education in the junior cycle. The syllabus recognises design as an important section of the course. It states that

Design should not be regarded as mere decoration or embellishment of finished products. Students should be taught how to analyse design problems, to plan and research, to use design processes appropriate to the task in hand, to clarify ideas through the use of working drawings, to carry work to completion and to evaluate the finished work. ¹⁰

The core syllabus gives Graphic design the same level of importance as painting and printing. The significance of design is reflected in the choice of options in Art, Craft, Design syllabus. These choices include animation, computer graphics, fabric print, fashion design, graphic design, jewellery making, package design, theatre design and weaving. The Art, Craft, Design core syllabus states that "in teaching any option, the appropriate design process, including drawing and visual research, and the relevant Support Studies must be part of the learning situation." ¹¹ It is within the design process that learning takes place and the process is vitally important within the Art, Craft, Design syllabus. The goal is not just about creating a finished work. As is stated:

At junior level the product or final statement should be seen as evidence of the students development in relation to the objectives of the syllabus and must be seen also for its possible further development and value in new learning experiences. Students work therefore should be evaluated as a whole with equal emphasis on both process and product.¹²

⁹ An Roinn Oideachais. *The Junior Certificate: Art, Craft, Design. Guidelines for Teachers*. The National Council for Curriculum and Assessment. p.10.

¹⁰ An Roinn Oideachais. *The Junior Certificate: Art, Craft, Design.* (Dublin: The Stationary Office, n.d.), p.7

¹¹ Ibid., p.5.

¹²Guidelines for Teachers, op cit., p.6

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Design Education requires a process of development to ensure learning is taking place. Therefore the method of teaching and the way the content is organised into learning situations must be well structured. ¹³

As mentioned earlier each stage within the design process is a learning process in itself. It is the role of the teacher to co-ordinate and to redirect particular stages or problems in the design, within a structure where pupils can be introduced to vocabulary, methods of working, use of materials and typical pitfalls, and where they can be exposed to visual references or similar approaches taken in existing designed works. For the pupil to recognise and understand the processes used in creating a design it is vital to experience it. By experiencing and learning how to express ideas through drawing and problem solving, an analytical approach to designing will develop. Drawing is used as a means of exploring and developing suitable ideas and eliminating unsuitable ones. Through drawing, pupils can visualise their designs and anticipate potential problems. David Thistlewood supports this and says that:

the individual needs to be able to externalise his or her imaginings and make them real. From the earliest times this has been effected through drawing, a kind of drawing that is immediately responsive to the prompting of the imagination, and that apprehends and clarifies ideas in process of refinement.¹⁴

Art, Craft, Design: Guidelines for Teachers states that "while drawing is a fundamental and important discipline in itself, it is also the preliminary planning process for most areas in Art, Craft, Design. "¹⁵ This reemphasises the prominent function of drawing in the design process. A study of the Junior Certificate Art, Craft, Design syllabus was documented in the 1992 Examination Report. It was found that "Design process were weak when very few properly produced working drawings were made." ¹⁶ The study also made reference to the fact that

¹³ Ibid., p.15

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¹⁴ Thistlewood, "The Essential Disciplines in Design Education", p.18.

¹⁵ An Roinn Oideachais. Art, Craft, Design: Guidelines for Teachers, p.9.

¹⁶ An Roinn Oideachais. The Junior Certificate: Art, Craft, Design: Chief Examiner's Report, 1992 Examination, (Dublin: The Stationary Office, n.d.), p.9

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Not only does this by-pass an essential part of the design process but ignores the importance of drawing as a skill within itself. For the design process to be of value to the individual each stage must create an individual learning process. Drawing is a means by which the individual can record information for further use and it is vital that developing pupils drawing skills is the main emphasis during the drawing stage. It is not necessary to inform pupils what the final product will be, but to treat each stage as valid within itself. As Clement argued adequate time must be allocated so pupils can master skills and techniques suitable to their ability. John A. Michael notes "Art experiences must be ordered in such a way that there is an attempt to bring learning and development to a higher level as a result of each experience, each activity building upon the previous one."¹⁸

In the Art, Craft, Design syllabus a description is given of what pupils are expected to develop as regards observational drawing. They are:

- observational drawing
- drawing from memory/imagination
- drawing for two-dimensional and three dimensional Art, Craft, and Design.
- the ability to represent three dimensions in a two dimensional image. ¹⁹

Drawing is the means by which we represent a three dimensional image on a two dimensional surface. There are many ways and means this can be achieved through the art elements colour, tone, line etc. To describe three dimensions through drawing is a skill in itself. For pupils in junior cycle these skills need to be recapped through a variety of methods and media until the basic skill is acquired. The translation from representing a three

¹⁷*Ibid.*, p.1.

¹⁸Michael, John A, Art and Adolescence: Teaching Art at the Secondary Level, (Columbia University: Teachers College Press, 1983), p.91

¹⁹ An Roinn Oideachais. The Junior Certificate: Art, Craft, Design Syllabus, p.7.

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is more the construction of a self-law of space the second and an age of a second age of

dimensional image by two dimensional drawing to creating a three dimensional object can often be difficult and hard to understand.

Classroom methodology, which will be described in Chapter Two is based on a three dimensional design project. This activity still requires a design process encompassing stages of development while learning skills and techniques. Often designing for three dimensions begins by drawing. As the *Art*, *Craft*, *Design: Guidelines for Teachers* states:

by providing direct experience, the spacial and tactile senses are further stimulated and the students ability to understand two-dimensional relationships in Design, Drawing, and Painting is enhanced so that three-dimensional and two-dimensional concepts become more intimately and naturally linked.²⁰

Introducing pupils to working in three dimensions must be well planned and each sequence structured to suit the level of the individuals. The primary objective at each stage of a project should be the success at which pupils develop a proficiency in that area. Tom Hudson points out that one should

"create a balance between work in two and three dimensions, and develop the capacity to move easily from one to the other." ²¹ Working in three dimensions introduces the potential of using a variety of media and methods to create a work. As the Art, Craft, Design assessment objectives states students should be able to:

- use the three-dimensional processes of additive, subtractive and constructional form-making in expressive and functional modes.

- use a variety of materials, media, tools and equipment.

- use an appropriate working vocabulary. ²²

Educating pupils in the use of tools and equipment necessary for three dimensional work in a specified media will develop worthwhile skills and techniques. Again each skill should be mastered as a technique in itself. For example pupils must be taught how to cut with a scalpal. It must be

²⁰ An Roinn Oideachais. The Junior Certificate: Art, Craft, Design. Guidelines for Teachers, p.4.

²¹Hudson, Tom "Creative Technology" in Issues in Design Education, p.102.

²² An Roinn Oideachais. The Junior Certificate: Art, Craft, Design, p.11.

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⁽a) Some Coleannas The Laure Crefits are ALL Office Dergan Cardelines for Gaussia, a Photoms, June 1577 area Technology? Ind. Jacob (Dregan Education p. 1921).
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used correctly on a suitable surface or it will damage the work and very commonly cut the pupil. These skills take time to enforce, it cannot be done in one lesson. Pupils must experience the technique for themselves and work out the correct methods for using the tool. Using tools and equipment has positive attributes and can simply be enjoyable for pupils. As John A. Michael says, an art teacher

may want to give some consideration to the motivational effect of working with tools and equipment in planning art experiences. For many adolescents, as with professional artists, the mere handling of tools used in an art process is stimulating and no other motivation is needed. ²³

This quote has direct relevance to the classroom methodology used in this discussion, the creation of a three dimensional sculpture using tools in an activity based project.

²³Michael. John A. Art and Adolescence, p.97.

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CHAPTER TWO Classroom Methodology and Application

The lesson scheme for this study was conducted with a group of second year boys at junior cycle. The pupils attend Belvedere College, an academic school with a strong Jesuit tradition, which caters for 1,000 pupils many of whom travel in from outer Dublin suburbs. Art is treated as an important subject in the school curriculum. Belvedere College is making a positive statement about the value of art and it is from the next school year being made a core subject in junior cycle. In the art department there is one part time and three full time art teachers, they have four fully contained separate art rooms.

The group selected for this study consisted of nineteen boys aged between thirteen and fourteen. They are bright and motivated with a mixed range of ability.

The lesson sequence was structured with specific aims and objectives in mind. First and foremost the sequence was developed to introduce, emphasise and gain experience in the format required in Junior Certificate Art, Craft, Design syllabus. Where the syllabus states that drawing should be used in the preliminary planning process. Likewise it states drawing is a fundamental and important discipline in itself. ²⁴

Design as a process with stages of development encompassing education in art and design skills, is vitally important. This study would like to put forward the view that in each stage of the design process, whether it is drawing, modelling, using clay or designing on paper, contains a facility to

²⁴ An Roinn Oideachais. *The Junior Certificate: Art, Craft, Design Guidelines for Teachers*. (The National Council for Curriculum and Assessment), p.9.

("service "Astrony and Application")

develop an aptitude in each of these specific areas. John A. Michael supports this view and says

within some of these processes there are definite sequences that must be developed. For example, in throwing on the potter's wheel, it is necessary first to wedge the clay, then center it on the wheel, make a well, and finally draw up the clay before it can be shaped into a pot.²⁵

The lesson scheme (fig.1&2) will be discussed in stages referring to the skills being emphasised at each development of the project. It will also serve to put forward the point that within design education in junior cycle level the main priority should be teaching disciplines/skills within the process of design.

The lesson sequence began with observational drawing using the hand as a source. For pupils to understand the translation of a two dimensional drawing into a three dimensional object, the second stage was to model a life size hand from clay. When this was completed a design brief was introduced. Pupils were instructed to use the hand as source and re-design the exterior of a functional object found in the home. To help pupils with the thinking and planning stages of the design process a brainstorming session was initiated. Through sketching pupils worked out ideas and made descriptive drawings of their solution to the design brief. When pupils had sufficiently thought through their ideas they began to construct the designs from chicken wire. The next stage was to cover the chicken wire structure with paper and glue.

Stage one - Drawing

The first stage in the sequence was concerned with observational drawing using the hand as a source. The objective of this lesson was to teach pupils skills of drawing and research. It is never assumed that pupils have the ability to draw; rather it was an objective to develop pupils skills in mastering specified techniques of drawing. For the purpose of the proposed lesson scheme i.e. the construction of a three dimensional object drawing was a vehicle to introduce pupils to three dimensions.

²⁵ John A. Michael, Art and Adolescence, p.93.

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Fig. 1. Classroom Methodology Lesson Scheme

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Fig. 2. Classroom Methodology Lesson Scheme



To begin the pupils were asked to place their hand in what they considered an interesting position. As a stimulation, emotive words such as anger, fear, triumph were written on the board. To help pupils adjust to observing the characteristics of an object the first five minutes was spent producing a 'blind' drawing (where pupils look only at their subject, not at their page, an exercise in observation rather than drawing) of their hand. From there, three line drawings (fig.3) were to be made, each from different angles. A visual aid of an apple cut in half drawn from numerous angles was shown to pupils, to explain how a three dimensional object looks from different angles. Before the next set of drawings were produced pupils were questioned on the shape, volume and form of the hand. They were able to say that tone in a drawing describes volume.

The next task was to describe their hand as a three dimensional object using line and tone (fig.4). As a method of recapping, home activity was given to the group. They were to produce three line and tone drawings of their hand from three different angles.

Stage Two - Clay Modelling

The objective of stage two was to develop pupils knowledge of form and volume in three dimensions through clay modelling (fig.5&6). This would in turn develop disciplines/skills in the use of clay. The pupils' had never used clay before so, as Michael noted in his publication Art and Adolescence the material and process in themselves created motivation. Pupils were shown how to knead the clay to soften it, how to remove air bubbles before modelling, and a demonstration of the modelling process was given. This was necessary to introduce new skills and techniques in using clay. When the demonstration was completed pupils understanding of the procedure was checked by asking questions. It was essential to give pupils time to master the simple techniques required to work with a material like clay. Then the methods of structuring of a free standing object was discussed. It was concluded that a triangular structure would support the free standing hand. Much time was spent recapping and reemphasing the modelling process to the group. As demonstrated in their drawings, the modelled hand should be constantly viewed from different

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With and task was to describe their hand gs a targe dimensional object as as if in raid one (0.9.4). As a method of meapping home activity was ad mission with active they are a to produce there the and tone drawings of their their trom three different angles.

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Fig. 4. Line and tone drawing of the hand





Fig. 5. Modelled clay hand



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Fig. 6. Modelled clay hand

angles to ensure accurate representation.

Pupils were given home activity, to document the process of modelling their hand in clay (fig.7&8).

Stage Three. The design brief

The design brief (fig.9)was discussed with the group. The emphasis of this stage was to help pupils develop a creative solution to the design problem. Another brainstorming session was held so that pupils could hear other ideas within the group. Pupils were encouraged to be imaginative and creative in their design. Support studies in the form of existing household functional objects based on animals and a selection of photocopied Art Deco hand objects were shown to the group. Pupils used drawing (fig. 10 & 10 to describe like their design. The drawings were to be simple but indicate how the three dimensional hand object would look from different angles. Individual aftention was given to each pupil and by the end of the lesson were to be constructed in chicken wire.

Home activity projects were again set as a means to re-emphasise the translation of a two-dimensional drawing into a three-dimensional object. Using plasticine or modelling clay pupils were to model a maquette/miniature (fig.12&c13) of their design, to further their understanding of a three dimensional form. It would also serve as trialbefore constructing the design in chicken wire.

Stage Four - Chicken wire construction

The disciplines and skills stressed in this stage were to develop the pupils' ability to work in three dimensions. They were to be aware of volume, shape and form. An understanding of technical methods of joining and twisting the material chicken wire needed to be developed. This stage was introduced by re-capping with pupils on structure, length, breath, depth, form and volume. A demonstration of the nature of chicken wire was given, emphasising the potentials of depth and volume. Pupils were also given instructions on the correct use of a pliers and wire cutters. Those who had made a maquette/miniature of their hand object had a clear grasp of the form and volume of the design, and found it easier to understand



Fig. 7. Pupils' documentation of the modelling process



DOCUMENTATION OF THE PROCESS OF DUT OF CLAY: PART 2 HAND 6 SANDI DETAILS ETC. DDING MINOR The Model unless your This Is his been allowed The Final A T sine 1 to dry, The sard-paper Con be used to all minor details. De the a) When modelling you must turn board around, and work, at it grow grown different anyles It is easier 6) EMould From the actual Cary, don't Stick bits to model the hand in this Position and then for the on, it will Sall apart fingers into the desired position) It is not necessary ; wet the day (directly) To get it soft, knew it. To keep it soft working on it, place it under loyer of to make the open of 9) Don't Squith day into a gripulake, you will get our porkets when you put it back together. It will explore in the Kim. lamp tissul - paper D'ont worny if your singers are thicken ton on your own hand. They need to be thicker so that, the structure is istronger. e) The base should be thick and heavy so that this will stand. Carl O'Rrom RSK

Fig. 8. Pupils' documentation of the modelling process



DESIGN BRIEF . SECOND YEAR . MISS AIKEN

USING YOUR HAND AS A SOURCE, DESIGN OR RE- DESIGN A FUNCTIONAL OBJECT WHICH COULD BE USED IN YOUR HOME.

- CHOOSE AN OBJECT EG. ASHTRAY, VESSEL, LAMP, MUG, OVENGLOVE, COAL BUCKET ETC.
- ► USING WHAT YOU HAVE LEARNED THROUGH MODELLING A 3 DIMENSIONAL HAND IN CLAY ie. VOLUME, FORM, SHAPE CHOOSE A HOUSE-HOLD OBJECT AND RE-DESIGN IT USING YOUR HAND/FINGERS AS AN INFLUENCE.
- > YOU MAY TAKE THE HAND AS A WHOLE OR USE JUST SECTIONS OF THE HAND.
- KEEP THE DESIGN VERY SIMPLE DO NOT MAKE IT COMPLICATED.

Fig. 9. The design brief





Fig. 10. Pupils' hand object design drawing - salt cellar





Fig. 11. Pupils' hand object design drawing - telephone





Fig. 12. Maquette - hand telephone





Fig. 13. Maquette - hand salt cellar



the structure in chicken wire. The pupils were motivated and working very well at this stage. The chicken wire construction (fig.14) was completed over a series of three/four double classes. Each of these lessons was aimed at further developing the techniques and skills used to achieve a high standard in the pupils work.

Stage Five - Applying a paper surface to the armature

The objective of this stage was to develop pupils skills in using paper and pva glue to cover the chicken wire structure (fig.15). The correct consistency of glue to water was mixed. It was stressed that pupils must have their working area well organised, as glue can be messy. The tables were covered with newspaper and the glue mixture was contained in a cup. The glue was applied using an old paintbrush and it was emphasised that the glue had to be washed out at the end of the lesson. It was stressed that the the size of the newspaper had to be directly related to the area being covered. To ensure strength, each layer of paper and glue had to applied at a different angle. Before pupils could to begin to cover the structure had to be stable and upright. All the extra pieces of chicken wire had to be tucked in neatly (fig.16&17) so as not to tear the paper surface. This stage has been worked over four double lessons and the pupils were then ready to begin the next stage in the sequence.

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Stage five - Applying a namer sarface in the analytic

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Fig. 14. Pupils constructing in chicken wire





Fig. 15. Applying paper to the wire armature





Fig. 16. Hand chair sculpture





Fig. 17. Hand pencil holder sculpture


CHAPTER THREE Evaluation of Classroom Methodology

The classroom methodology for this lesson scheme so far has proven successful. From the beginning of the scheme (fig.1) the pupils have demonstrated that they have continued to develop the acquired skills and disciplines within the process of design. Some stages of the process contained more learning content than others. There were stages which could have developed pupils skills and knowledge further than they did. Overall each stage contained valuable learning processes. These will be evaluated in order of sequence.

Stage one - Drawing

The scheme began with observational drawing (fig.2) of the hand. In hindsight the drawing stage could have been treated with a more stimulating method and medium. As drawing is such an important and necessary part of the learning process, the skills to be learned in this area need to be made exciting and motivating. Pupils would have benefited from further lessons to develop additional disciplines and skills in observational drawing. Possibly it could have been treated as a project in itself.

Using 'blind' drawing as an introduction to an object is an excellent exercise, and a means through which the pupils become familiar with the characteristics of the object about to be drawn. It also serves as a warm up drawing for pupils, to ease them into their lesson. Time in a classroom situation is limited therefore it should be spent as fruitfully as possible. Before pupils began the line drawing, time was spent encouraging them to verbally describe the hand. This was another method of observation so

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that they would be more aware of the aspects of a three-dimensional object. The pupils' completed line drawings were strong, recording the shapes and space of the hand well.

Tone is another area which proved difficult (fig.4) for pupils to grasp. Firstly what pupils would refer to as shading was clarified and the correct term 'tone' was introduced. It was explained to pupils that shading is only one way of describing tone. Conventional shading can be used to describe tone i.e. placing a soft pencil on its side and gradually reducing the pressure so that the shading becomes lighter. Tone can be described in a variety of ways, using for example cross-hatching, dots, blocks of different tones or mark-making. Since the medium being used was lead pencil (as opposed to a coloured medium), tone was described as the lightness and darkness of an object, which relates to the amount of light hitting an object. Even with this explanation pupils found the exercise dreary. Tone could have been explored in all sorts of ways, experimenting with different media and marks. If areas like line and tone drawing are not treated in an interesting (but serious) manner pupils will be unproductive and therefore bored. Therefore, it is up to the art teacher to create stimulating learning situations for the pupils while not neglecting the disciplines/skills which are the focus of that lesson.

To back up the tone exercise in class, a home activity project was set where the pupils had to produce line and tone drawings from different angles. As they were being given the project they were informed that these drawings would be used as a source for next week's lesson on modelling the hand in clay. It is important to tell pupils why they are doing an exercise as it links the activities of drawing and modelling, so that the exercises do not exist in isolation. Pupils can also begin to make the connection between their research drawings, which depict an object in three dimensions, and actually modelling the object in clay.

Stage Two - Modelling in clay

This stage was worked over two sets of double classes, amounting to two hours and forty minutes, and was possibly the most successful in the sequence (fig.5). The homework drawings, described above, were a helpful (a) the model behave aware of the amound of a function due of the contract of a function of the contract of

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reference for the pupils as they began to build the basic hand structure in clay. It was also possible for them to place their own hand in the relevant position when the model hand was being constructed, so they could refer to it as often as needed. While the group was working, the silence in class was amazing. Such concentration is wonderful advantage for the teacher, as it is possible for the whole class to hear individual instructions given. It was easy to question the group and for them to hear the replies. Time was constantly spent re-capping and re-emphasising important instructions. Pupils were regularly told if their model wasn't being viewed from all angles during the modelling process they would have difficulty describing the whole form. A specialised vocabulary including words like 'form', 'volume', 'three-dimensional', 'proportion' and 'balance' was introduced, and checked so that it was clear the instruction was understood. A support study of modelled hands by Auguste Rodin was a helpful reference for the group. Pupils were encouraged to describe the finger as a solid shape. The biggest difficulty was first getting the pupils to concentrate on modelling the basic form and volume of the whole hand. There was a tendency to work on one area at a time while ignoring some parts. It was reiterated that, as with their drawings, the modelled hands must be continuously viewed from all angles to ensure accurate representation. Each pupil had their work on a wooden board that could be rotated easily.

As this group had never used clay before, they were introduced to new vocabulary to do with the characteristics of the material and its properties. This dealt with methods of attaching one piece to another, knowing that clay must be kept in an airtight state so that it won't dry out (if one must delay completion), and how to recycle used clay.

In the original lesson sequence sheet for this scheme it was envisaged that clay modelling would need only one double class. As it turned out the first class was so beneficial that it was extended over a second double period. Pupils showed an excellent grasp of three dimensional work and clay modelling. Their work showed comprehension of the form and volume of a hand. They were also given a solid introduction to the proportions of the subject. Structure and balance were strong and all the upright hands stood in a stable position. It should be pointed out that this project is

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intended to be no more than an introduction to three-dimensional modelling. Within this stage the group made great progress. They had been introduced to a new medium and made great steps in mastering skills in clay modelling.

As this study is interested in the stages of a design process and more importantly the skills pupils will acquire in each area, it was interesting to see what the pupils seemed to have gained from the lesson. Following the completion of the modelled clay hands pupils were asked to document the process of modelling. The results were surprising (fig.7&8), the pupils had absorbed a lot in the two lessons. It was encouraging to see them a good understanding of the modelling process.

The pupils were very pleased with their own work, and made it clear that they wanted the hands placed in a safe environment. Their art teacher complemented the group on their work and brought the modelled hands to the library to be displayed.

Stage Three - The Design Brief

The design brief was explained and designing conducted over one double period. The design brief (fig.9) was given to each pupil. It must have been disappointing for pupils to arrive into class and find an unappealing lesson ahead of them. It was difficult to motivate the group for this lesson after they had been involved in an activity they obviously enjoyed very much.

The objective of this lesson was to introduce pupils to design through solving the problem set in the brief. This was composed of a theme (the hand), the use of completed research drawings from stage one, and a combination of drawing and a three-dimensional study. It was hoped that this would give the pupils an idea of what type of work is expected in a Junior Certificate Art, Craft, Design project. This was stressed to the group.

Another objective of this lesson was to instruct pupils on how to draw their design ideas. Thistlewood has described this kind of drawing as 'imagining' and 'imaging'. It is difficult for pupils to do this and it is a struggle to get them to draw more than three ideas. Pupils were being incondere to be no more than an infroduction to three-dimensional modeling coloring the stage the group of degreet progress. The Joe been incodence of a new modeling and made great steps in masteria, skills does incodeling A still to to be interested in the stages breat design, process and more incomantly the skill popule will amone in each ace, if was interesting to see what no produce stage to have gained from the lesson of the interesting the see of an define. The second of a bands provide on the lesson of the pupile and process of modeling. The rester of a bands provide will accurate the process of modeling. The rester of a bands provide of the pupile and process of modeling. The rester of the work stages provided from the lesson of the pupile and process of modeling. The rester of the rester of the second of a process of modeling the rester of the second provides provided for a second process of modeling the rester of the second provides provided for a second process of modeling the rester of the second provides provide the second of the second of the modeline of the rester of the second provides provide the second of the pupile and process of modeling the rester of the second provides provide the second provides provide the second of the pupile and process of the rest in the second provides provide the second provides provides the second provides provide the second pupile and the second provides provides provides provides provides provides provides provide the second pupile and provides the provide the second public the second public pupile and the second public the two beserved to the second public public

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By the end of the lesson some interesting designs had emerged. Those who were having difficulty were given individual guidance.

This stage of the design process could have been more exciting to pupils and teacher alike. There could also have been a higher learning content throughout the lesson, although it was felt that at the end the group had a greater understanding of the approach of combining a theme with a problem-solving activity. Despite the drawbacks, by the end of the lesson all the pupils had created at least two designs (fig.11), some of which showed potential.

Again, as a backup to class work pupils were given a home activity project, which was to model a maquette/miniature of their design in clay or plasticine. (fig.13) This proved successful. Those who used their miniature design found the initial stages of the chicken wire construction an easier task. The pupils who were questioned about this felt it was a great advantage to have a small version of their model as they were beginning the sculpture. It aided the pupils' understanding of the form, volume and proportion of the object, and in making a decision as to the scale of the sculpture (approx. 1')

Stage four - Chicken wire construction

Introducing pupils to a new media and methods of working, especially an activity based project, always gives an immediate motivation. The beginning of each lesson was used to recap on previous lessons and question the knowledge and understanding of the correct terminology which they had had by the end of that stage. Building the chicken wire structure was time consuming and it was found important to place pressure on the group. If pupils were allowed spend too much time in one area they would become bored and motivation would die.



The tools used in conjunction with chicken wire were pliers and wire cutters. They had no problem using the tools and more often than not manipulated the wire with their fingers which was just as effective. Emphasis was placed on creating the overall form and volume first, while the next stage concentrated on making the structure solid and rigid, and joining the wire neatly and firmly. In this stage the pupils learned a great deal about the structure of an object. Their technical abilities in using tools and chicken wire were further developed. By the end of this stage they were aware of the techniques needed to create a stable structure, and that proportion, balance and volume were contributors to the stability of the object. A standard was set whereby pupils were expected to have a neat and firm structure with all the protruding pieces of chicken wire tucked in carefully. It was also a learning exercise in that pupils were made aware of the potential of what could have been regarded as waste material. All the extra pieces of chicken wire were placed in one area to be used for attaching sections of wire or building up new areas.

It was felt that the pupils did learn and benefit from this stage, coupled with the advantage that they themselves were interested and motivated. It served as a worthwhile section in the overall educational value of the design process.

Stage Five - Applying a paper surface to the armature

A demonstration was used to introduce the group to the next stage in developing (fig. 16) their project. Pupils were shown how to organise their working area. When working with a medium which has the potential to be messy or tumble out of control it is necessary, for the benefit of the pupils, to create an organised working environment. The individual should be given the responsibility for the organisation of their own work. Respect for tools, equipment and working area is still to be learned. This did work well with this group. They were also responsible for labelling the work and placing it all in a safe place. In this demonstration a lot of time was spent re-emphasising the techniques needed to create a neat layer of paper on the chicken wire surface.

The pupils found this stage very enjoyable. Even though the task seemed

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to be relatively easy it did develop standards of workmanship. Each pupil worked out their own method of neatly covering the chicken wire. Those who did not have the small ends of wire tucked in found that it caused the paper covering to rip, and therefore had to retrace their steps to achieve an even layer. The pupils are happy with their work thus far and seem to have thrived on the three-dimensional activity. This project has the potential to continue along the creative path of the design process, and the techniques used could be developed for use in most other areas of the syllabus.



CONCLUSION

As this study has made reference to the role of design education, it is valid to mention that at junior cycle level design is primarily a process. It is on the process of design that the main concentration lies in Design Education in the Art, Craft, Design curriculum, rather than, as mentioned in Chapter One, to satisfy human needs. Using the process of design, thereby developing in the pupil different skills and disciplines, will serve as a grounding in design education. There needs to be developed the ability to carry out theme-based research in a competent and creative manner, and to use this information to further develop into any area of Art, Craft, Design. It is hoped that with new developments in the art curriculum at senior cycle, design education will be used to further the skills and disciplines presently evolving in junior cycle Art, Craft, Design.

Since Art, Craft, Design has been established it has created a more serious approach in general to art education. This is reflected in art now being established as a home activity subject. From the classroom methodology it is worthy to note the back-up to classroom work, home activity was. It served as a connection and a link between lessons and activities in class, and also to gave pupils a greater understanding of the process they were learning.

The classroom methodology illustrated in this study has served to put forward the view that the learning stages within the design process at junior cycle are as valid as the whole process itself. It is not to be forgotten

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that the main aim is education itself, and each stage within a design process should encompass many learning capabilities, suitable to the level of the pupils. In this case the classroom methodology carried out with a group of second year boys from an academic school proved beneficial at each stage. Every section, such as drawing and modelling, was as important as the next within the overall scheme. The pupils gained a solid grounding in many of the relevant areas.

By using these techniques not only are the pupils introduced to Art, Craft, Design in the broader sense, but they gain an understanding of this approach to art education. The Junior Certificate Art, Craft, Design has contributed in a far greater way to art education in comparison to the old syllabus. The skills acquired can be built upon and extended further, to aid projects in any option of the core syllabus of Art, Craft, Design.

On reflection, the project as completed to date has created a wealth of stimulation, and engendered optimism in both pupils and teacher in the direction of art education. Added to this is the potential for such a formula to be extended and adapted, reflecting the continuum in which all design exists. It has therefore been proven to be a worthwhile grounding in design education at Junior Cycle in Ireland. As Iseult McCarthy said at the beginning of the Art, Craft, Design syllabus being implemented:

Change was needed and the work that has been done has helped greatly in ensuring that Art, Craft, Design wins the place it should have as a central subject at Junior Certificate level and afterwards.²⁶

²⁶ McCarthy, Iseult," An External Perspective", In The changing Curriculum : Perspectives on the Junior Certificate, ed., Tony Crooks, (Dublin: O'Brien Press,), p.41.

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Dissertation Abstract

ISEULT AIKEN

Diploma for Art & Design Teachers 1994-1995

A STUDY OF DESIGN EDUCATION IN ART, CRAFT, DESIGN AT POST-PRIMARY LEVEL IN IRELAND

This study has examines the exact role of design education, pointing out that at junior cycle level design is primarily a process, or the various processes involved in designing are more important than the actual products of design. The fact the design process is so important is recognised in the Art, Craft, Design syllabus. Using the process of design, thereby developing in the pupil different skills and disciplines, will serve as a grounding for future design processes.

The classroom methodology illustrated in this study has served to argue the case that the learning stages within the design process at junior cycle are as valid as the whole process itself. It is not to be forgotten that the main aim is education itself, and each stage within a design process should encompass many learning capabilities, suitable to the level of the pupils. In this case the classroom methodology carried out with a group of second year boys from an academic school proved beneficial at each stage. Every section, such as drawing and modelling, was as important as the next within the overall scheme. The pupils gained a solid grounding in many of the relevant areas.

By using these techniques not only are the pupils introduced to Art, Craft, Design in the broader sense, but they gain an understanding of this approach to art education. The skills acquired can be built upon and extended further, to aid projects in any option of the core syllabus of Art, Craft, Design.

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