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"The Relationship Between Ability And Creativity"

A Dissertation submitted to the Faculty of Education

in

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DIPLOMA FOR ART AND DESIGN TEACHERS

by

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INTRODUCTION

In my dissertation I propose to examine the relationship between Creativity and Intellectual ability. I will show that the higher the academic ability of a pupil is, then in general terms the higher the creative response can be. I state 'general terms' here, as there are always exceptions to the rule.

In my first chapter I will discuss the meaning of intelligence. I will show that there are few areas in a child's formal education that are not influenced in some way by intelligence. I will also examine the means by which intelligence is measured and the need for such tests in schools. I will discuss the relationship between and the overall ability of the pupil, and will finally look at the factors which influence intelligence, mainly the environment itself.

In the second chapter I will how schools cater for pupils with different abilities. I will examine the four main types of ability grouping in Ireland; 'streaming', 'setting', 'banding', 'mixed-ability'. I will discuss the advantages and disadvantages streaming has for the pupil, as this is the most common form of ability grouping in Ireland. In the last part of this chapter I will briefly introduce the term 'Creativity'.

The third chapter of my dissertation will concern itself with the meaning of creativity and the relationship it has with the ability of the pupil. I will examine the results of ability test scores (the Drumcondra Verbal Reasoning Test) of 17 pupils from a low stream class and compare this result with their other subject average and their artisric averages set by the teacher. I will compare this with scores in the same areas from pupils in a higher stream, in the same year, in the same school.

My illustrations will show a project set for both of these groups, with the same aims and objectives, using the same technique; I will evaluate the results of these in relation

to ability and creativity.

CHAPTER 1

WHAT IS INTELLIGENCE ?

In this chapter and the following one I intend to highlight the fact that no two students are the same: every person is unique. This difficult fact of life causes many problems in schools and the educational system in general. Each institution varies enormously in the ways in which they take individual differences into account, but most seem to focus on the intellectual capabilities of the student. Therefore in this chapter I will concern myself with intelligence - what it is and how we try to assess it.

According to the Oxford Pocket Dictionary intelligence is " quickness of understanding " (1). David Fontana defines intelligence as "the ability to see relationships and to use this ability to solve problems" (2). If we take this to be so, therefore it is possible to see that there are few areas in a child's formal education that do not appear to be influenced by intelligence in some way.

Due to this fact it is sometimes useful to categorise students on the basis of factors related to their success at school, as this can be useful information for a teacher to have.Because intelligence is not directly observed like the height or weight of a person, we can only infer its presence by watching people's behaviour. Therefore any means that we may be able to produce to measure intelligence is less a measure of what people have than the way they behave(3).

Pupils may be described as being more or less "able", or having greater or lesser "aptitude" for a task. We could also ask the question "who is best ?" or "how clever is this person compared to that ?"Even so, it all depends on the judgement

of whoever is designing the intelligence test and what he/she considers as intelligence. The designers of these tests stipulate the conditions: they set the questions, determine the time limit by which these questions must be answered. they also decide which answers are wrong (4). We could also propose quite different sets of conditions and perhaps produce quite different sets of marks. It is difficult, therefore to accurately assess intelligence as it, itself, depends on so many other factors which influence it. These include, for example, opportunity, the encouragement of others, motivation, degree of anxiety and many more (5).

My intention here is to highlight the difficulty associated with such measurement. The way in which we conceptualise ability inevitably influences the decisions we make on how measurement is to be undertaken (6). It is for this reason that some psychologists define intelligence as simply the ability to perform well in intelligence tests. This serves to remind us that although an intelligence test gives us a fair indication of the ability of the student, we must not over estimate the accuracy with which intelligence test scores can actually predict future achievements(7).

It is widely believed that intelligence is a good measure of ability to learn. Even so psychologists who are firmly committed to the use of intelligence tests admit that there is no straight forward relationship between learning and measured intelligence. For example, Jensen (8) notes that the correlations between measures of performance on a large number of simple learning tasks are meagre, and that the correlations between performance at learning tasks and scores in intelligence tests are also very small(9).

Despite this evidence, many people cling to the view that each person has a fixed capacity to learn and that this capacity is closely related to intelligence. The fact that intelligence test scores are related to a person's learned achievements

encourages us to believe that intelligence and learning must be closely related.Therefore when I mention intelligence tests in this work I am referring to both IQ and attainment tests.

INTELLIGENCE TESTING

Intelligence testing goes back to 1905 when the psychologists Alfred Binet and Theodore Simon (10) were asked by the French education authorities to devise methods of identifying children who were too "feeble minded" for education in normal schools. Binet decided to compile a series of simple verbal and practial problems designed to test qualities of comprehension, reasoning, judgement and adaptation, all of which could be tackled by older children better than by younger, and by children classed as "bright" by their teachers, better than by children classed as "dull" (11). Binet made a futher decision to standarsize scores so that each individual's mark could be compared to the norm for their age. This eventually led to the concept of mental age; a child's mental age being the chronological age at which most children obtained scores similar to his or her own (12). If we take the example of a seven year old child obtaining the score usually achieved by ten year olds, we could say the child had a mental age of ten.

In 1916 the concept of mental age was developed by the American psychologist Lewis Terman, into what became known as an "intelligent quodient" or IQ (13). A child's IQ was arrived at by taking the ratio of mental age to chronological age and multiplying it by hundred. Thus a child with a mental age of ten and a chronological age of seven would have an IQ of:

$$\frac{10}{7} \times \frac{100}{1} = 143$$

If the child's mental age matched his/her chronological age the IQ would always be hundred, therefore using this formula, it would be then easy to determine if a child was above or below average for their age ten.

This method of testing has only proved successful with children under fifteen years of age. The intelligence tests show that we are at a peak mentally around fifteen. Since
chronological age goes on increasing and if we were to continue to use the equation, the IQ of a person over fifteen would continue to drop year by year (14).

Therefore, no means of intelligence testing is foolproof and we should not interpret IQ tests too rigidly nor should we assume that small differences between one given group of children and another necessarily mean very much in practical terms.

Although for practical purposes tests yielding an overall composite IQ score, an alternative model has been proposed, a better means of testing intelligence, for example the AH2 intelligence test. In 1905 Carl Spearman advanced what became known as the "Two Factor Theory" of intelligence. He suggested the existence of a general intelligence factor (g) and a range of specific ability factors (s). Thus in any intelligent act "g" is involved plus the "s" factor(s) appropriate to that particular act. Specific abilities are separate and distinct from each other, but according to Spearman, it is the "g" factor that accounts for all correlations between cognitive abilities (15).

As all these abilities are interconnected it is almost impossible to isolate or measure "g" on its own. As a result of this, alternative models of intelligence have been advanced that abandon the idea of "g" altogether and propose instead a

series of distinct clusters of intellectual abilities that may or may not be connected with each other but in measurement terms are better thought of as separate, for example, verbal abilities, numerical abilities, artistic or creative abilities etc (16).

These are the alternative models I have mentioned previously and which have become increasingly popular, especially in Britain and America. If this popularity continues to grow we may see the demise of simpler group tests of intelligence and see instead a range of marks produced for each child, with each mark representing competence in a different area of intellectual skill (17) for example the Drumcondra Verbal Reasoning test.

The practical advantage of this is that a child who might perhaps score poorly in certain areas (and therefore have ended up with a relatively low IQ score), could get a good result on one or more of the remainder, thus giving us evidence of the areas where the child is more able.

We can take the example of a child who is good at say verbal reasoning and may also be good at tasks involving numerical ability etc. However, there may be fluctuations in his or her performances from one to the other, which suggests that there is some degree of difference between the intellectual abilities involved. Even if students are described by their teachers as "highly intelligent" or "of average intelligence" they may not perform uniformly at all tasks involving intelligent behaviour (18).

There is an increasing differentiation between abilities as the child grows older. Tests have shown that the very young child's performance in different areas of intelligent behaviour tends to be relatively uniform, but in adolesence and adults there is often a marked difference from one area to another. This may in part be the result of the increasing pressures towards specialization with which we meet

after our primary school days. It could also be that our powers of thinking develop and become more complex, so our ability to tackle certain kinds of intellectual problems also develops and more rapidly than our ability to tackle others (19). Our natural tendency is to concentrate upon areas in which we are successful, at the expense of areas in which we are not.

FACTORS WHICH INFLUENCE INTELLIGENCE

As already mentioned there are many other factors which can influence the level of intelligence of an individual, and one of the most influential of these would be the environment itself. If we take the home environment for example and refer to paternal occupation, research has consistently shown that the mean IQ of children from professional backgrounds is much higher than that of children from working - class backgrounds (20). the reasons for these differences are by no means clear. Children from low socio-economic status homes are less likely to have the material possessions that stimulate intellectual activity, such as books and constructional toys. They are also less likely to be read to, or to hear complex verbal structures from their parents (21).

Through artistic expression a person can express his/her own uniqueness which does not require a predetermined level of intelligence to do so. Therefore, through the arts, visual and otherwise, a real personal expressional development, as well as many other characteristics, can take place. I will deal with this issue in a later chapter and will explore futher whether or not a high IQ or level of attainment score will predict the same level of success in an artistic area, or can creative talent operate to an advanced level with a lower intellectual ability.

CHAPTER I FOOTNOTES

1. C. T. Onions, The Shorter Oxford English Dictionary (Vol 1, Oxford: Claredon Press, 1973)
2. David Fontana, Psychology For Teachers (Leicester: The British Psychological Society, Macmillan Publishers LTD, 1988) p.79
3. Ibid.
4. Michael A.Howe, A Teachers Guide to the Psychology of Education (Oxford: Basil Blackwell Publisher, 1984) p. 88
5. Ibid., p.90
6. Ibid., p. 91
7. Fontana, Psychology For Teachers, p. 80
8. Ibid., p. 81
9. Ibid, p. 80
10. Ibid.
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12. Ibid., p. 82
13. Howe, A Teachers Guide to the Psychology Of Education, p.90
14. Fontana, Psychology For Teachers, p.85
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18. Ibid., p. 88
19. Ibid.
20. Ibid., p. 103
21. Ibid.
22. Ibid

CHAPTER 2

ABILITY GROUPING IN SCHOOLS

In this chapter I will focus on how schools group children of different levels of ability and the implications of this for them. I will introduce the term "creativity" and consider its meaning and, based on a review of the literature, try to determine the connection it has with the ability of the child.

There are many factors that have led to the notion of ability grouping in schools and as to how this may benefit the individual child. Firstly, the fact that there are an increasing number of students competing for points for third level education, has meant that many schools now have to deal with pupils of a more diverse ability range than ever before, especially at senior cycle (1). In addition to this the fall in the population has resulted in the decline of enrolments at junior cycle and therefore some schools have found themselves in the situation of accepting pupils they may not have accepted in the past. The purpose of this being so that they keep up their annual pupil intake, and therefore avoid losing a teacher. This has meant that schools have had to re-evaluate their internal structure so as to accomodate this change (2).

According to Drudy and Lynch in Schools and Society in Ireland there are four main forms of ability grouping in schools in Ireland (3). These are "streaming", "banding", "setting" and "mixed - ability". These can be used separately or in combination with each other. Firstly let us examine "streaming". This involves grouping children of a similar age into groups on the basis of a certain measure of ability. This may be based on their performance on a school - based attainment test, or possibly the teacher's personal and professional assessment. These

streamed groups are then kept together for most subjects and the rate of progress and the curriculum is varied according to the ability of the group(4).

The second form of ability grouping is "banding". This involves very broad bands of ability range and is often used in large schools with a large pupil intake in the first year, usually community and comprehensive schools. Due to the fact that these bands are so broad it may result in a number of classes composed of pupils from different bands eg. above average, average, below average (5).

The third form of ability grouping ,"setting", is the system of grouping pupils by ability for individual subjects. The most commonly "set" subjects are Mathematics, English and other languages. It is often combined with mixed - ability grouping whereby pupils would be "set" for the forementioned subjects and then placed in a mixed - ability grouping for all other subjects. This form of grouping can be very advantageous for pupils as they can be at the bottom of the class or group for English and the top of the group in another subject. Many schools employ this system of grouping at senior cycle but refer to it as dividing pupils into Honours or Pass groups, rather than "setting" them (6).

The final grouping of ability is "mixed - ability". This may be simply achieved by placing pupils into random groups perhaps alphabetically; or by firstly ascertaining the ability of the age group and then ensuring that each class has representative numbers across the range (7). There are many advantages to this approach to grouping but it also has its disavantages. In favour of this form of grouping, one may argue that it offers the most integrated approach and due to its variety, can extend individual teacher's skills. On the negative side of the argument, it requires extensive preparation to be effective and this is often badly resourced and organised. It is also difficult to maintain effectively beyond Junior Cycle in many subjects (8).

If schools stick too rigidly to any one of these arrangements they may not be able to meet the wide variety of problems presented especially by the low achiever, therefore, as mentioned previously, many schools employ a combination of these forms of ability groupings.

If this was not the case, the term "low achiever" or "remedial" student would present many problems as to how they should be placed within the school system. If we examine the Warnock Report we will find a better indication of how remedial students are defined:

> They are children who have been absent from school and need to make up work which they have missed; children with physcial or sensory disabilities, sometimes temporary, sometimes permanent; children with varying degrees of learning difficulties and children who need to be temporarily withdrawn fron the normal class for specific purposes.(9)

The report goes on to say that the term "Remedial", like the term "Treatment", suggests that these children have something wrong with them that can be put right. It is also true that some of them are only suffering a temporary learning difficulty and, given appropriate help, are able to return to their previous classes having completely overcome their disability. Others, however, require special help and support throughout their school lives and to say that these children require "remedial" education is misleading. Children in so - called "remedial" groups have a wide variety of individual needs, sometimes linked to psychological or physical factors, which call for skills and discriminating attention by staff in assessment. They also require the devising of suitable programmes and the organising of group or individual teaching, whether in ordinary or special classes (10). Therefore it is evident that each ability range presents its' own problems and must be dealt with accordingly.

Each of these forms of ability grouping has its own advantages as already discussed with regards to mixed - ability grouping. For example, it may be argued that the less able pupils would suffer in mixed ability classes because of high - achieving pupils, in addition to this one may say that the high - achieving pupils would be held back due to being grouped with slower learners. Because of this fact many educationalists believe that streaming leads to better outcomes for most students, particularly those at the extremes (11). This is due to the belief that children vary in their ability (however this is defined), they learn best in classes of children with similar ability; and also that classes are better taught when they are homogeneous (12).

Let us examine some of the effects streaming has on pupils with different abilities. I have chosen streaming for this anyalsis since it is the most common form of ability grouping found in Ireland at present. There are a lot of advantages and disadvantages attached to streaming. In Schools and Society in Ireland, Drudy and Lynch refer to Douglas' (13) study of primary school children in Britain, which showed that children in higher streams improved their attainment test scores between the ages of eight and eleven, the less able improving the most. Between the same ages, the scores of children in the lower streams deteriorated, those of the most able among them deteriorating the most. This resulted in a greater difference between the two streams at the end than at the beginning. Lynch's (14) study of Irish post - primary schools revealed similar information. Pupils in a high stream (often higher than their ability test would suggest) tended to improve and those in too low a stream deteriorated in academic performance. Lynch's study also showed that an astonishing 29% of the principals she interviewed admitted allocating what they perceived to be the best teachers to the top ability groups or streams (15). It appears that increased attainment by children in highly placed streams is being bought at the cost of lower attainment

by children in lower streams in the most streamed or in highly "banded" schools. Therefore the overall effect of this is negative.

In comparison to this point Hannan and Boyle (16) give the example of one of their sample schools where streaming was chosen to maximise the achievement of the lower ability group. Maximum teaching effort was directed to these pupils in the form of a much better teacher - pupil ratio than other classes; the most effective teacher were allocated to them and they received extra remedial attention. The results over a five year period were that drop - out and failure rates diminished and the whole ethos and standards within the school improved.

In addition to learning or academic effects there are also social and emotional effects of ability grouping. These are outlined in Drudy and Lynch's Schools and Society in Ireland. Drudy and Lynch found that those pupils who were allocated to low streams suffer a degradation of self: their sense of self worth is undermined. In schools where academic achievement is rewarded, allocation to a low stream is a label of failure. These low self images, as discovered by O' Kelly's research (17), are to be found both in education and on a personal level.

Streaming has also been known to effect friendships. Children allocated to different streams usually discontinue their friendships that have previously being formed: for example, in a former non-streamed year, and those remaining in the same streams continued them. O' Kelly's (18) account of experiences of ability grouping in an Irish school gives evidence that children in high and low streams do not mix very much with each other but in some cases have developed very negative sterotypes about each other (19). Therefore in such cases mixed-ability grouping may prove more successful where pupils are no longer faced with the problem of failure due to allocation to low bands, social classes are mixed and classroom experiences are shared.

As outlined in my introduction, I stated that I would introduce the term "creativity". Creativity may be defined, according to David Fontana as "the ability to generate fluent and novel ways of tackling problems and the very act of taking into account a number of alternatives provides the impulse to create" (20). This quotation implies that when a student is presented with a problem, there may be a number of solutions and the student may discover his/her own unique solution.

No matter what their academic level, all students have the ability to produce something that for them is unique or new compared to previous work. Creativity is part of the cognitive process (21) and if a students cognitive ability is well developed then their creativity may be at a higher level.On the other hand if their cognitive ability and possibly their creativity ability is deficient in some way, this must affect their performance in the art room.

I will explore further in the next chapter the meaning of creativity and the idea that academically bright students do better than non-academic students in art in general and slow learners usually excel in different and somewhat more intuitive areas in art, for example,dealing with colour. I propose to do this by taking examples of children, of the same age group, from the same school, but of different academic abilities and examine their work in relation to creativity.

CHAPTER 2 FOOTNOTES

1. Sheelagh Drudy and Kathleen Lynch, "Schools And Society in Ireland",(Dublin:Gill and Macmillan,1993) p. 244.

2. Ibid.

3. Ibid.

4. Ibid.

5. Ibid., p. 245.

6. Ibid., p. 245.

7. Ibid.

8. Ibid.

9. Alan Cohen and Louis Cohen, Special Educational Needs in the Ordinary School,(London: Harper and Row,1987) p. 120-1.

10. Department of Education and Science, Special Educational Needs (London: 1975, as cited in Cohen aned cohen) p. 121.

11. Drudy and Lynch, Schools and Society in Ireland, p. 247.

12. Ivan Reid, The Sociology of School and Education, (London: Fontana, 1986, as cited in Drudy and Lynch) .

13. Drudy and Lynch, Schools And Society in Ireland, p. 248.

14. J Douglas, The Home and the School, (London: Mc Gibbon and Kee, 1964, as cited in Drudy and Lynch).

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Consequences of Selection and Streaming in Irish Post Primary Schools (Dublin: Economic and Social Research Institute, 1987, as cited in Drudy and Lynch) p. 250

18. A O' Kelly, "A Case Study in a Community School: An Analysis of streaming and its Effects, (Dublin: MED Thesis UCD, 1986, as cited in Drudt and Lynch) p.251

19. Ibid.

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21. David Fontana, Psychology For Teachers, (Leicester: British Psycholical Society and MacMillan,1988) p. 114

CHAPTER 3

Ability and creativity

I intend in this chapter to discuss further the term "creativity" and examine the relationship this has with the ability of the pupil.

Malcolm Ross in The Creative Arts describes the creative person as:

> ...one who is endowed with what most of us would regard as the visual attributes of a lively mind: sensitivity to problems, fluency of ideas, flexibility of mental strategy, originality, the capacity to redefine situations and sustain penetrative mental process(1).

Many researchers have pointed out that if creativity is the capacity to break away from habitual thought processes into more novel and original ones, such capacities lie in the effects of the "environment" upon personal development. Therefore, it is more personality than special intellectual ability that distinguish the creative from the merely effective or competent individual.

Even so to make sense of these "effects" or experiences means acting upon that experience and transforming it in some way, and to do this involves a measure of intellectual ability. In my opinion the greater this is, the more novel and original ideas will be produced. I will discuss this further on in the chapter where I will take two groups of students from two different ability ranges and compare the results.

Ross also states that "Arts Education deals with image - making as a means of building our perceptual faculties - our intelligence of feeling."(3) As art education encourages creativity, it is therefore an intelligent response to feelings. Therefore the level of intellectual ability must have a bearing on this.

If we examine the table on the next page, this will become more clear.

If we examine the table on this page, this will become more clear.

TABLE (1).

Pupil	Ability Test Average	Other Subject Average	Art Av.
1	79	D	C
2	79	C	C
3	89	D+	D+
4	94	C-	C-
5	94	C+	C
6	93	C	C
7	87	C+	D+
8	86	C	C
9	93	C	C
10	93	C+	C
11	89	C	C+
12	93	C	C
*13	98	D+	B
14	94	D	D
15	97	D	D
*16	99	C	A
17	96	C	C-

SOURCE: These scores were obtained from records of grades from a first year low stream class in a North Dublin Community School.

TABLE (2)

Pupil	Ability Test Average	Other Subject Average	Art Av.
1	123	B-	C+
2	116	B	B
3	121	B	C
4	107	C+	C
5	117	B	B+
6	110	B+	B+
7	105	C	D+
8	104	C+	B
* 9	112	B-	C
10	106	B+	B+
11	105	B	B
*12	108	C+	D+
13	111	B+	B+
14	101	B	B+

SOURCE: These results were obtained from records of grades kept on a first year high ability class in the same school as TABLE 1.

The ability rank in both of these tables was obtained from the average standard scores got in:

Maths- (Computation, Concepts, Problems)

Irish Reading - (Vocabulary and Comprehension)

English Reading - (Vocabulary and Comprehension)

English Spelling.

The maximum score obtainable on this ability test was 150, the average being 100 and the minimum 64. If we examine the tables closely we will find that the pupils' average in art directly relates to their average ability in other subjects and also to their ability test scores. Pupils 13 (illustration 1) and 16 in TABLE 1 are the exception to this, where their ability in art is much higher than their ability in other areas. To balance this, we also find an exception in TABLE 2. Pupils 9(illustration 2) and 12 are below their average ability in the artistic field as opposed to other subjects.

According to Fontana, the creative act involves four stages:

1. **Preparation:** which is primarily concerned with the recognition that a particular problem is worthy of study.
2. **Incubation:** during which the problem or the theme is mulled over.
3. **Inspiration:** when the possible solution to the problem springs to mind.
4. **Verification:** when the solution is put to the test.

Fontana discusses each stage futher, but I will concern myself with the **Incubation** stage here.He says:

> ..freed from logical, sequential thought, the mind is able to rove freely over its accumulated store of knowledge, trying new permutations and new justapositions until one eventually makes recognisable sense.(4)

Therefore if this is true, depending on the store and ability to store knowledge, the greater the amount of resources the mind has to call on must effect the level of creative response to the problem. Therefore both convergent and divergent thinking have their vital roles in a creative act and are therefore used to complement and support each other and are not mutually exclusive(5).

Getzels and Jackson (1962) attempted to prove this point wrong and demonstrate the independence of 'creativity' and 'intelligence' . Hasom Butcher (1968) developed Getzels and Jackson's study in Scotland on an unselected population and found considerably higher correlations between divergent tests and IQ, so that they came to the conclusion that divergent tests are hardly distinguishable from convergent ones. However, most investigators, for example Cropley, who use factor-analytic techniques were in fact, able to identify one or more factors on which divergent tests clustered separately from a convergent thinking (6).At the same time they all noted significant correlations between divergent and convergent tests and did not consider that the two factors were completely independent of one another (7). Therefore it is evident that creativity and intellectual ability are related.

CHAPTER 3 FOOTNOTES

(1) Malcolm Ross, The Creative Arts. (London: Cox and Wyman, 1978) p. 3

(2) Ibid., p. 38.

(3) Ibid., p. 39.

(4) David Fontana, Psychology for Teachers. (Leichester: The British Psychological Society & Macmillan Publishers, 1988) p.115-116

(5) Ibid.

(6) Hugh Lytton, Creativity in Education. (Britain: Northcumberland Press, 1971) p.38.

(7) Ibid., p. 37.

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ILLUSTRATION 1

Example of a puppet head moddelled from clay, and a cast produced from scrim and PVA glue.

TABLE 1 - pupil 13- Above average creative ability in relation to other subjects.

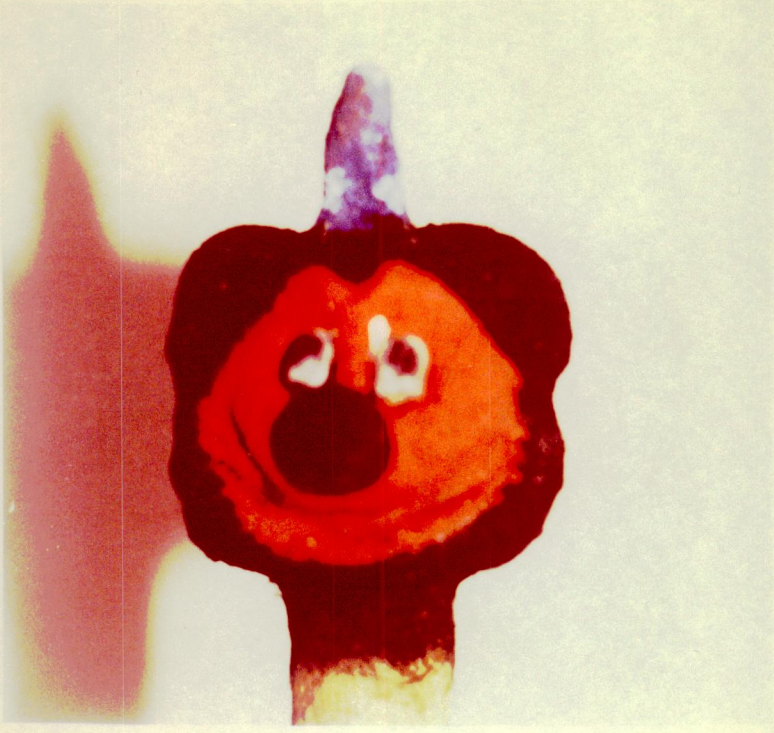

ILLUSTRATION 1(A)

Example of a puppet head using the same procedure as in previous illustration

TABLE 1- pupil 3- similar creative ability in relation to other subjects and ability test results.

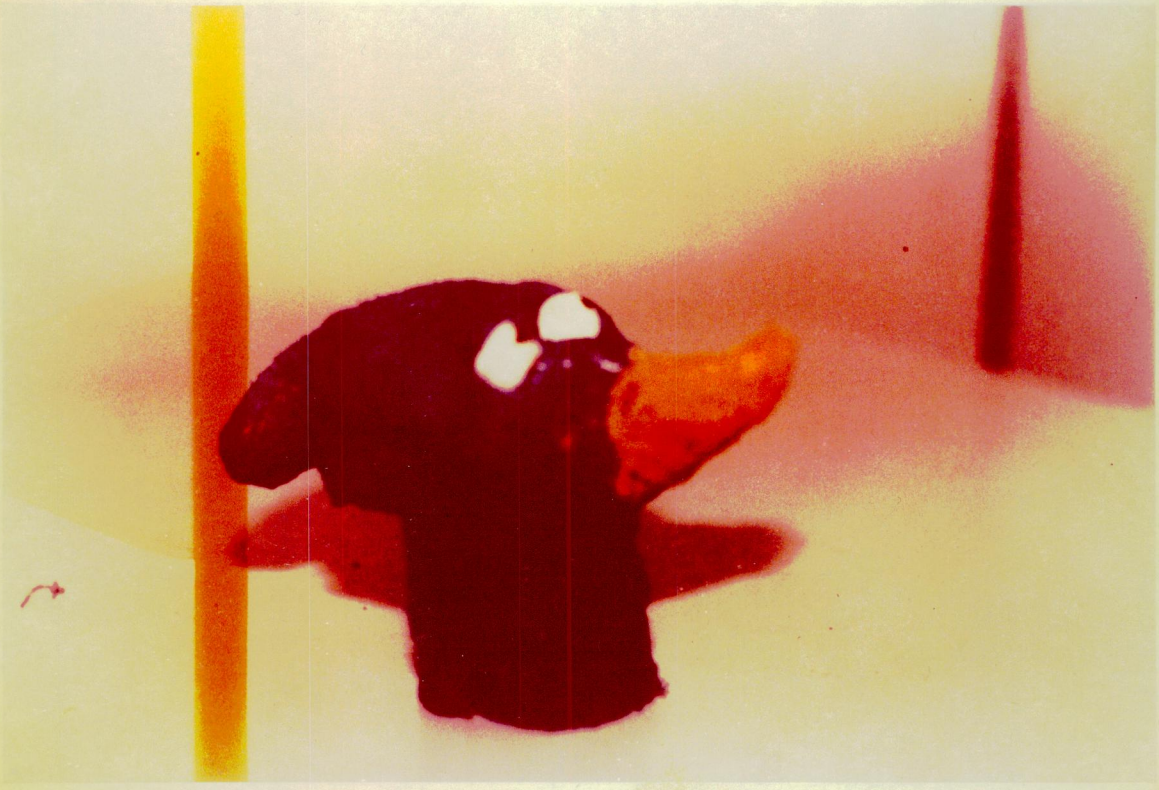

ILLUSTRATION 2

Same technique used as in illustration 1 and 1(a).

THis pupils is below average in the creative field in relation to the results from other subjects and ability tests.

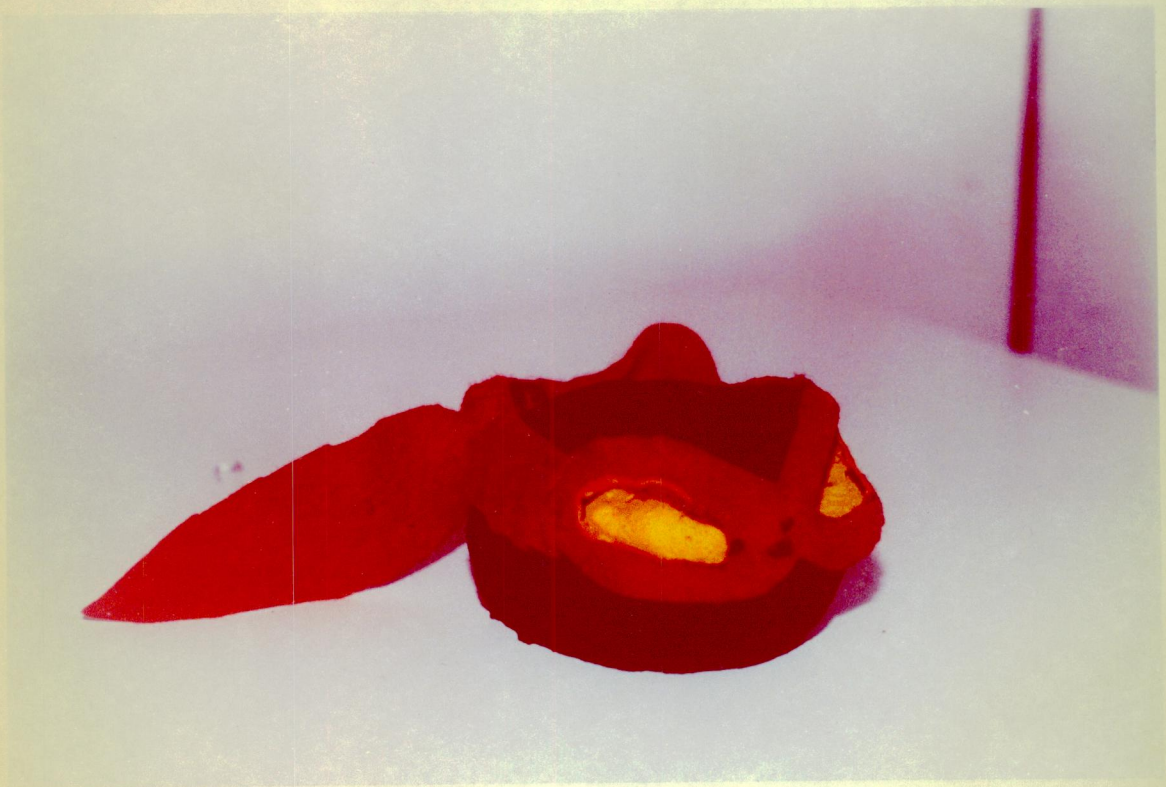

ILLUSTRATION 2(A)

Same technique again as i and 1(a)

Pupil 14(TABLE 2) similar ability in the artistic area in relation to abilities in other subjects and scores from ability tests.

TABLE 1- pupil 3- similar creative ability in relation to other subjects and ability test results.

If we compare illustration 1 and illustration 2(a) (1= lower ability, 2(a)= higher ability) we can see an obvious difference in creativity. Pupil 2(a) has developed their head by adding texture both in the form of polyfile to describe the hard beak, and painted feathers for the head. Pupil 1 has not developed their head to the same level even though they were given the opportunity to do so. Therefore it is my assertainment that due to the higher intellectual ability of pupil 2(a) he/she was able to bring their piece futher than pupil 1, even though though pupil 1 was considered to be of a higher creative ability (similar to pupil 2(a)) , but of a low intellectual ability. Therefore the higher the intellectual ability the more creative one can be.

CONCLUSION

In my dissertation I have discussed the meaning of intelligence. I have outlined the various means of testing intelligence and have show the relationship between attainment (verbal reasoning) and IQ

I have discussed the means certain schools emplot to group pupils of different levels of ability, and the consequences these groupings have for the pupils concerned.

In my final chapter I explored the meaning of creativity and have shown the connection it has with intelligence or attainment. By comparing the creative work and attainment scores for pupils with different abilities, I have shown that those in a higher stream have more resources to call upon when involved in a creative act, and are therfore in most cases the mor creative. This may be due to the fact that they have been exposed to more information through their environment, or maybe through their inherited genes which have provided them with a greater capacity to store information, than those in a lower stream. Of course there are exceptions to this, but for this study I have concerned myself with the overall outcome of the pupil's tests results, and will therefore conclude that the greater the intellectual capabilities the greater the creative response.