

Primary Education in Ireland

1. Language
2. Bilingualism
3. Reading ability in regard to mathematics

PAT MC DONAGH



The educational system is a means by which one generation transmits to the next the basic elements of human knowledge, the culture of the society, the social habits, customs, national attitudes and its religion, morality and ethics which in a fundamental sense determine the essential quality of the society and of the people who constitute it.

When a child is born into the world it bears the stamp of his heredity, but his development is influenced not merely by his natural endowments but also, and to a very great extent, by his environment. How he will develop will depend largely on the success or failure of the combined efforts of his home, his church and his school, to see that his all-round growth is healthy and harmonious.

The Primary school has its own function in preparing the child to take his place as an adult in society both in work and in leisure. New mysteries of knowledge are being discovered, which underline human fallibility and ignorance; and traditional skills have been replaced by new skills which in turn face adolescence. Yet this is the world in which children grow up and mature and our duty must be to prepare them to work in it and find enrichment during leisure time; to meet its challenges, to accept what is worthwhile in it and to reject what is shoddy, to make a full and responsible contribution to its evolution.

The educational system can develop a receptiveness to new ideas, and a capacity to organise, assess and apply them in all fields



of human endeavour. It can develop in the child the capacity to think clearly, creatively and critically, rather than the mere facility for remembering mechanically. The extent to which this objective is achieved depends less, on the actual subject matter that is being taught than on the manner of teaching and on the attitudes, quality and enthusiasm of the teachers.

The changing role of the Primary school in recent years, however, has demanded a corresponding change in practice within the classroom. Since 1951 Infant teachers have based their work on the principles that "Individual differences should be recognised and catered for : every child should be helped and encouraged to do his best but no child should be forced beyond his capabilities".

What the Infant school curriculum needs is a mixture of individual, class and group activities. The individual and group work should be more frequent than the class work which should be confined to such activities as story-telling, games, drama and music. Over the last few years children have been playing a much more active part in their own education and are therefore much more self-reliant and confident about tackling fresh challenges.

This change in practice was not quickly accomplished as the old traditional style buildings with small classrooms and clumsy desks was an obstacle. The student/teacher ratio was another, the lack of books other than textbooks was still another. This new change in design means that newly built schools have more space, light, heat etc. The new furniture is light, portable and adaptable, and noticeable reductions have been made in the student/teacher ratio.



The aims of Primary education are stated as follows in the Department's Teachers Handbook.

1. To enable the child to live a full life as a child
2. To equip him to avail himself of further education so that he may go on to live a full and useful life as an adult in society.

Arising from these general aims, specific aims are also defined in relation to literacy and numeracy.

The ability to read is perhaps the most important skill the school has to teach a child, it is a most important aid to the child in fulfilling himself as a child and an aid without which his personal and educational development cannot proceed very far.

With regard to <sup>ea</sup> mathematics the specific aim is to give the child a grasp of basic mathematical structure and content to lead the child to a realistic level of skill in computation will also be an important aim.

The objects of the Primary Branch of the Department is to provide for a Primary education which can achieve the above aims.



BILINGUALISM

Since the establishment of the Irish Free State in 1921 the restoration of Irish has been one of the Principal aims of Irish education.

Dr. Douglas Hyde, founder and first president of the Gaelic League and other founder members felt that Irish people by adopting English ways and the English language had been untrue to themselves. The positive aspects of the Gaelic League's views about the Irish language coincided with those of Thomas Davies who wrote : 'the language which grows up with a people, is conformed to their organs, descriptive of their climate, constitutions and manners, mingled inseparably with their soil, is fitted beyond any other language to express their prevalent thoughts in the most natural and efficient way'.

The Gaelic league was also a source of inspiration for the political movement which eventually led to the establishment of the Irish Free State; so it is not surprising that one of the first acts of the native government was to lay down that 'the Irish language be taught for not less than one full hour each day in all national schools where there is a teacher competent to teach it.' The decision was decided at a national programme conference representative of many Irish organisations called the previous year 1921 by the Irish National Teachers Organisation (I.N.T.O.). The conference proposed that the work of the infant classes and the teaching of



history, geography, singing and physical training in other classes, should be conducted where possible through Irish. A second National Programme Conference convened by the Minister for Education at the request of the I.N.T.O. in 1925, reiterated this proposal, and stated that the use of Irish as a teaching medium be extended as far as possible. The Department of Education adopted the resolutions of the second conference and in 1934 made them obligatory to all national school teachers.

It was not long before certain doubts were expressed about the Irish language policy and especially about the wisdom of teaching children from English-speaking homes through the medium of Irish and in 1935 the I.N.T.O. issued a questionnaire to all its members to inquire into the use of Irish as a teaching medium. The report published in 1941 stated that the majority of replies were to the effect that the majority of the pupils did not receive anything like equal benefit from instruction through Irish, as compared with instruction through English.

The bilingual situation which has been most studied in the past is that of immigrants to the U.S.A who are in process of losing the language of their country of origin and acquiring English. These people required English in order to converse with their friends and acquaintances. Their children must also learn English as it is the language of the school and the society in which they live.

The Irish situation is much different. The incentives put forward for learning Irish are cultural and political only.



Irish children live in an English speaking environment and depend for their knowledge of Irish almost entirely on their teachers. Unlike bilingual children in the U.S.A. Irish children are asked to acquire a second language which is not the language of the world they live in.

Irish children differ from children of other countries where a second language is sometimes taught in primary schools e.g. France, Sweden. Irish national schools devote approximately 42 per cent of the available time over the first six years to Irish and only 22 per cent to English. Whereas in other countries the proportion devoted to the second language is much less. The UNESCO Report on Foreign languages in Primary education (1963) for instance states that 15 to 30 minutes per day is spent in learning the second language.

Native speakers of English in Ireland who have spent 42 per cent of their school time learning Irish do not achieve the same standard in written English as British children who have not learned a second language and there is an estimated difference in standard of 17 months of English age. Neither do they achieve the same standard in written Irish as native-speakers of Irish (estimated difference, 16 months of Irish age). Also the English attainments of native-speakers of Irish fall behind those of native speakers of English both in Ireland (13 months of English age) and in Britain (30 months of English age).

Teaching arithmetic in Irish to native English-speakers develops a retardation in problem, but not in mechanical arithmetic. This retardation in problem arithmetic is estimated as about 11 months



of arithmetic age. While teaching arithmetic in Irish appeared at first to have a beneficial effect on attainment in Irish closer study of data received by means of research proved that this was not the case.

At the present there is a growing movement to teach a second language in Primary schools and even to teach some of the Primary school subjects through the medium of the second language. However most of what has been done seems to be of an experimental nature and results have to be published. The movement owes its origin to political, commercial and cultural, incentives rather than to the findings of educational research.

In Ireland where Irish has been taught by the direct method over a period of forty years, results are not very encouraging. Native speakers of English appear to be relatively weak in both English and Irish. Admittedly, Irish is given a much larger place in Irish schools than the second language is given elsewhere and so the effect on the mother tongue may not be equally detrimental elsewhere. On the other hand it could be said that the children of the other countries where a second language is taught will not acquire a comparable grasp of that language unless perhaps in some cases a greater incentive to learn the second language compensates for the relatively shorter time given to it.

The Irish findings relating to the teaching of other subjects through the medium of the second language are particularly discouraging. For it seems that the teaching of mathematics at least, through the medium of the second language does not benefit



the second language, while it has a detrimental effect on the child's progress in mathematics.

For Irish education these findings are of the utmost importance. It is a serious matter that native-English speakers who are taught arithmetic in Irish should be retarded in arithmetic as a result. But this is not so serious as the effect of the general policy for the restoration of the Irish language in attainment in English. The retardation in arithmetic appears to be confined to problem arithmetic; and the number of children who are taught arithmetic in Irish is relatively small. The effect on English attainment, on the other hand, is very grave indeed since all Irish school children whose mother tongue is English (over 96% of school children) are involved. Many of them leave school with no more than a Primary Education, so it is doubtful if they will have an opportunity of catching up on their counterparts in Great Britain. Those children who decide to go to secondary school are less prepared than they might be to follow secondary school courses, in which the reading of books in English will form a major part of their work. Although they have a reasonably good knowledge of Irish for children who learned the language in school only this is not to say that the aim of restoring the Irish Language is nearer to realisation today than at the turn of the century when Douglas Hyde founded the Irish League.

The position of children in Irish-speaking districts appears to be the most serious of all. Their attainments in English and arithmetic



are the poorest of all, while their attainment in Irish as measured by a very simple test of written Irish affords little grounds for complacency. For many of these children, the adult world in Ireland or in England, will be an English-speaking one and they appear to be ill-equipped for life in it.



# THE IMPORTANCE OF READING ABILITY IN REGARDS TO MATHEMATICS

Research over the last few years has shown that problem-solving is the most difficult part of mathematics. The calculations involved may be quite simple and such that the pupil can easily do them correctly if they are presented directly. What seems to be more difficult is deciding from the information given in the problem text, just what calculations need to be performed. Because this information has to be obtained by reading the text, it has often been proposed that the difficulty of mathematics problem-solving springs from lack of reading skill, not lack of computational skill. Another possibility, of course, is that understanding of basic mathematical concepts is essential for selecting the correct problem-solving procedure. Still another is that general intelligence is the key factor underlying all the skills involved in successful problem-solving.

A look at the literature on mathematics problem-solving reveals a long-standing interest in those issues (Monroe and Engelhart, 1931; Aikin, 1972). Sometimes the question is focussed solely on the relationship of reading to problem-solving, at other times, a larger number of skills or abilities is considered as well. In some of the descriptive treatments, the ordinary principles of teaching reading are applied directly to the teaching of how to read verbal problems (Earp, 1920, Henney 1971). In others, special techniques for translating or decoding verbal problems are devised to be taught either to young children (Henney 1971,



Cooper 1971) or to older learners (Dahmus 1920; Peibnow 1969).

How can teachers help children to become **better** problem-solvers ?  
Do we have any evidence that improving reading in general or improving some specific reading skills will lead to improved performance in problem-solving ? While many studies relating to these questions have been done, we do not have conclusive answers. Partial insights however arise from some of the empirical investigations. A few such investigations are reviewed here.

Studies using correlation and regression techniques (e.g. Erickson 1958, Martin 1964, Cottrell 1968) agree in reporting moderate to moderately high intercorrelations of arithmetic problem-solving scores with a variety of measures of arithmetic skills, reading skills, and general intelligence or ability.

However, sorting out the relative contributions of any single variable (like arithmetic reasoning) or any class of variables (like reading scores, including reading vocabulary and reading comprehension) to problem-solving performance becomes very difficult.

In a recent survey some startling revelations about the New Maths and the failure of Primary school pupils to master some of the basic skills, and their ability to learn others. The worst areas were decimals and percentages, operations with fractions and arithmetical problems.



Less than half of the senior pupils achieved mastery of these subjects, and the best results were in the multiplication and division tables and totting.

The report was drawn up by the curriculum unit of the Department of Education, which tested a representative sample of pupils. In the new curriculum various objectives such as subtraction, multiplication by two-digit numbers, mastery of charts, groups, measurements and fractions are set for the pupils.

The Department's tests of 1972 pupils involving 120 classes of second standard and 2017 pupils involving 125 classes of fourth standard showed how the objectives were being met or not met. It found that 80% or more of the second-standard pupils achieved mastery of the following objectives : addition tables, addition without carrying, operations with zero subtraction tables, counting on in 2's, 3's, etc., subtraction without re-naming, addition with re-naming, and constructing number sentences using frames.

However the report says that the scores on other objectives such as reading the clock only (58%) identifying three dimensional shapes, (51%), notation of numbers up to 199 (57%), and identifying simple fractions 55%, give some cause for concern.

In the senior class four out of five mastered the following objectives: multiplication tables, division tables, addition of columns of numbers, subtraction of four-digit numbers, and reading the time to five minute intervals.



At the lower end only 34% achieved mastery of the distributive properties of multiplication and divisions and only 31% achieved mastery of problems involving length, weight and time.

A questionnaire was sent to Department Inspectors in an effort to discover the causes of the relative lack of success among senior pupils in decimals and percentages (49% mastery) operations with fractions (47%) and arithmetical problems (33%).

The replies from 56 inspectors suggested that insufficient time was given to oral work, and the inspectors stressed the importance of oral revision.

Many also felt that there was over-dependence on textbooks and work-books. The inspectors generally condemned the use of text work-books, which they regarded as being mainly unproductive and in some cases harmful.

A lecturer in mathematics education in St Patrick's College of Education, Drumcondra, Dr. John Close, who helped with the study recently stated the results indicated the varied and complex nature of maths learning and the need for careful monitoring of it. He thought that mastery of all the areas of the extensive new maths curriculum beyond the capabilities of some of the pupils. It might be desirable to identify a set of minimum competencies in maths essential for everyday life, and seek to ensure that the vast majority of pupils attain those skills before leaving school.



It is quite apparent from this study that Primary education is no longer a mechanical process of learning but a system in which the child is the principle instrument in his own education. The advances in the teaching of English are remarkable, and clearly demonstrate the change which has taken place in the manner and quality of teaching. The number of studies and reports written on 'The Primary system of Education' over the past ten years - particularly in Mathematics and language - is in itself a reflection on just how important the early years of education are.

#### Reference Books.

1. Studies in Reading — Vincent Greaney
2. The underachieving child — John Holt.
3. Summerhill A — A.S. Neill.
4. Education in Ireland I — Michael Murphy
5. " " II " "
6. Children Solve Problems — Edward de Bono.
7. The child the family and the outside world. — D.W. Winnicott.
8. How children fail — John Holt.
9. Children and Society — Erik H. Erikson.
10. The work of Justice — Bishops Pastoral.

#### Talks.

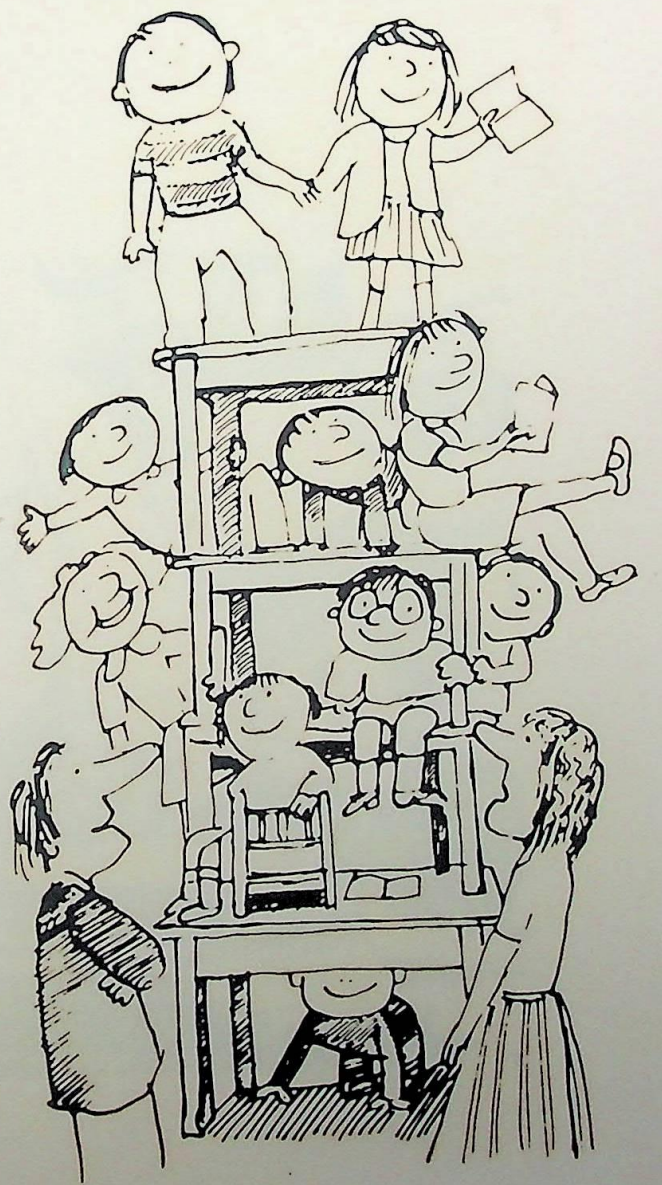
- Vincent Greaney — author of Studies in Reading.
- Prof. John Kuhlman — Lecturer in Education, U.C.D.





"For heaven's sake don't look out of the window;  
she'll make you write about it."





"I don't think Miss Jones  
has really mastered the concept  
of vertical grouping."









“Please Miss, Johnny said something rude  
in the restricted code.”





“Well, what did *you* discover at school today?”



