

## A SURVEY OF TEACHING AIDS IN IRISH PRIMARY SCHOOLS

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In a survey of a representative sample (N 102) of Irish Catholic primary schools, information was obtained from teachers concerning libraries, general equipment (e.g. projectors, charts) and subject equipment in their schools. Seventy six per cent of schools had libraries, but the number of books per child was small. While 64 per cent of schools had charts, the number with other kinds of general equipment was small. Subject matter equipment (for mathematics, art and crafts, geography and music) was also meagre. There was a tendency for town and city schools to be somewhat better equipped than rural ones.

Educationalists are generally agreed that the school as we know it needs to be changed, but they differ both in the precise changes they envisage and in the extent they are prepared to move from the present system. For these, among other reasons, the ultimate fate of the school as an institution is difficult to predict. However, one of the changes we may expect to see in the coming years is a movement away from what Goodlad (2) has called 'human-to-human instruction' to instruction based on 'man-machine interaction'. Despite their present enormous costs, a number of educators forecast that the computer will be a normal feature of schools in the future, and indeed computers are already finding their way into a number of schools (cf. 1).

There are, of course, many aids to teaching, less expensive and less complex than the computer, competing for the educationist's attention—from television and language laboratories to structural apparatus for the teaching of mathematics. Very little is known on a sound empirical basis of the educational effectiveness of such aids and there is still a great need for research in this area (6). However, there are reasons for believing that certain types of equipment will in time prove their educational worth. Already, for example, there is some evidence that, under certain circumstances, the use of programmed material results in the reduction of learning time (cf. 3). There are also strong reasons for believing that films and television have strong motivating effects on children, the new Children's Television Workshop in the United States is an effort to capitalize on young children's interest in television in order to teach language and numerical skills to disadvantaged pre-school children. Even if a particular aid does not result in better or faster learning in all circum-

stances, it may still have a value. For example, if one can use a film or television programme to teach a very large group as effectively as one can teach a small group without such material (cf 8), then economic factors might dictate the use of the material.

There is a further reason—apart from considerations relating to economy or better learning—why new technical and technological developments cannot be ignored in the school. Education is supposedly for life, and if children are going to live in a world of mass media, machines and gadgets, it is not unreasonable to expect that some acquaintance with these things should be provided in the school. Children can experience considerable difficulty in understanding and assessing audio-visual documents, the school should help to bring the pupil to the point where he can evaluate and deal with audio-visual messages critically and intelligently (7).

All this suggests that likely developments in Irish education in the coming years will have to take account of the place of equipment in the school. Little, however, is known about the present situation in Irish schools. In one survey, carried out in 1963-64, information was collected from school managers on equipment for special subjects, audio-visual aids and library facilities (4, 5). The number of schools with any kind of audio-visual aids was found to be extremely small. The study reported in this paper, carried out three to four years later, might throw light on changes in the interim. The present study, however, differs in a number of ways from the earlier one. We obtained information by visiting schools rather than by means of a questionnaire completed by managers, and the information sought was, in many respects, more specific. However, the number of schools investigated was very much smaller than in the 1963-64 survey.

#### PROCEDURE

The population of Catholic primary schools in Ireland (N 4,375)\* was stratified for location, sex of pupils attending, type of administration (lay or religious) and size of school. Within each category a number of schools was randomly chosen. In all 102 schools were selected. Since the number in some of the categories was very small, only location was considered in the analysis of findings. Schools were divided into city schools (if located in one of the five boroughs of Dublin, Cork, Dun Laoghaire, Limerick or Waterford), town schools (if in a town with a population of over 1,500) and rural schools (if situated in rural

\*Approximately 93 per cent of primary school children in Ireland are enrolled in these schools.

areas or towns with a population of less than 1,500) The number of schools selected in each category was city—23, town—15, rural—64

Each school was visited and, in a semi-structured interview, information was obtained from teachers about equipment in the school Information was sought concerning the following

- (1) Books and libraries
- (2) General equipment (e.g., projectors, radios)
- (3) Subject equipment (mainly for mathematics, art, geography, music)

All the schools were visited in the summer term of 1967

#### BOOKS AND LIBRARIES

No single school text-book can carry all that a child is likely to need to know about a topic Besides, books vary in their emphasis, their style, even in their credibility From an early age the child should learn how to use a wide range of books, how to be selective and critical, even sceptical—and above all he should learn to exercise his judgment This we can hardly hope for if a child's experience of books is confined to a single text-book, however good The acceptance of a single book is in itself an encouragement to adopt the wrong kind of attitude towards the acquisition of knowledge

The position of libraries in schools has improved over the past few years At the time the survey was carried out, a number of schools were in the process of establishing libraries and the figures given in Table 1 most probably underestimate the number of schools that have libraries today \* As the figures in Table 1 show, there was room for improvement

TABLE 1  
PERCENTAGES OF SCHOOLS WITH LIBRARIES

	School library	Library in one or more classroom	Any kind of library
City	35	48	61
Town	80	67	87
Rural	75	47	80
Total	67	50	76

\*Libraries obtained their books from a number of sources In some cases books belonged to the school, having been bought with school funds or with a grant from the Department of Education In other cases, books were on loan from a County Library

An estimate was obtained of the number of books in each school, and the number of books per child over the age of ten years in the school was calculated. In city and rural schools that had libraries, there was 6 of a book per child. Town schools had one book per child. Not only is there a need for more libraries in schools, but there is also an obvious need for increasing the number of books in existing libraries.

Children, of course, are not confined to school libraries for their reading matter, so children over the age of ten years were asked if, in the last six months, they had borrowed books from a library outside the school. The findings are given in Table 2. Understandably, city and

TABLE 2  
PERCENTAGES OF CHILDREN OVER TEN YEARS OF AGE WHO  
BORROWED BOOKS FROM LIBRARIES OUTSIDE THE SCHOOL

	All schools children who borrowed books	Schools with libraries children who borrowed books	Schools without libraries children who borrowed books
City	40	36	44
Town	36	39	—
Rural	23	26	11
Total	36	36	28

town children tend to use outside library facilities more often than country children. The fact that outside libraries are conveniently available to city children probably means that the absence of a library in the school is of less importance than the absence of a school library in a rural area. It was found that children in city schools which had no libraries, tended to borrow more from outside libraries than did children in city schools which had libraries. The difference, however, is not very great and it is interesting to see that children, even when they have a library in the school, will continue to use other libraries. In town and rural schools, the children who tended to use outside libraries were the ones in schools which had libraries of their own. Of all children, those in the town and rural schools which had no libraries were the worst off since they scarcely used outside sources at all.

#### GENERAL EQUIPMENT

Under the heading of general equipment, information was collected concerning a wide variety of material which could conceivably be used over a range of subjects either for actual teaching (e.g. television) or in the preparation of material for lessons (e.g., duplicating machines).

Seventy-two per cent of schools had some kind of equipment. Thirty per cent of city schools, thirty-three per cent of town schools and twenty-seven per cent of rural schools had none of the items listed in Table 3.

TABLE 3  
PERCENTAGES OF SCHOOLS WITH GENERAL EQUIPMENT

Equipment	City	Town	Rural	Total
Charts	70	67	61	64
Tape recorder	30	27	8	16
Record player	22	13	11	13
Movie projector	22	27	5	12
Flannelgraph	22	7	9	12
Slide projector	17	7	8	10
Typewriter	13	13	5	8
Radio	9	—	6	6
Duplicating machine	4	7	3	4
Television	—	—	5	3
Magnetic board	4	—	—	1
Other	9	7	14	12

It is clear that the number of schools with equipment other than charts is small. Though the various categories of schools do not differ greatly, city schools tend to be slightly better equipped than town or country ones.

It is possible to compare the findings of the present survey with those of the *Investment in Education* report (4) concerning such equipment as projectors, tape recorders, record players, television and radio. All kinds of equipment for which it was possible to make comparisons were found in more schools in the present survey than in the 1963-64 survey.

#### SUBJECT EQUIPMENT

##### *Mathematics*

A good deal of material designed to assist in the teaching of mathematics is now available (9). In the present survey, information was sought about the more common types of structural apparatus as well as about a number of other kinds of equipment used in the teaching of mathematics. Table 4 carries information on the use of equipment in the schools in the present survey. Altogether, only sixteen per cent of schools had any kind of equipment for teaching mathematics. City and town schools were relatively better off than rural ones: twenty-six and twenty-seven per cent of city and town schools respectively possessed some kind of equipment for mathematical work while only nine per cent of rural schools had any such equipment.

The most commonly found equipment was for number games the material for these consisted mainly of skittles, dominoes and various

TABLE 4  
PERCENTAGES OF SCHOOLS WITH EQUIPMENT FOR TEACHING  
MATHEMATICS

Equipment	City	Town	Rural	Total
Number games	26	13	5	11
Cuisenaire apparatus	13	13	3	7
Material for work with capacity, shape, etc	9	7	3	5
Stern apparatus	9	—	—	2
Solid geometry apparatus	4	—	—	1
Other	9	20	8	10

kinds of blocks The category named 'other' in the table included charts for the teaching of number, and collections of beads and blocks of varying shapes and colours We enquired about the Dienes material and calculating aids but did not find them in any school

#### *Art and Crafts*

It may be possible, though perhaps not desirable, to teach some subjects without equipment, art or crafts, however, cannot be attempted at all unless the school has a supply of certain basic materials In the schools surveyed, less than twenty per cent had any material (apart from knitting-needles, common in girls' schools) specifically for the teaching of art or crafts thirty per cent of city schools, thirty-three per cent of town schools and twelve per cent of rural schools had at least some of the equipment mentioned in Table 5

TABLE 5  
PERCENTAGES OF SCHOOLS WITH MATERIAL FOR  
ART AND CRAFTS

Equipment	City	Town	Rural	Total
Material for painting	30	13	13	17
Material for raffia work	—	7	—	1
Material for weaving	—	—	2	1
Material for pottery	9	—	—	2

#### *Geography*

Globes and maps, one feels, have long been a feature of the Irish primary school Nowadays, however, there is a range of auxiliary materials designed to make geography more concrete and immediate for

the child So far, as Table 6 indicates, very few schools are making use of such material

TABLE 6  
PERCENTAGES OF SCHOOLS WITH GEOGRAPHY EQUIPMENT

Equipment	City	Town	Rural	Total
Maps	91	93	95	94
Globe	82	67	86	82
Local ordnance survey map	17	13	28	23
Material for 3 D maps	—	—	3	2
Surveying equipment	—	—	3	2
Weather chart	4	—	2	2
Barometer	—	—	2	1
Thermometer	—	7	—	1
Rain gauge	—	7	—	1

### *Music*

Lack of musical instruments obviously restricts the scope of musical education in a school Well over half of Irish schools (sixty-five per cent) have no instruments at all City schools fare considerably better than rural ones seventy per cent of city schools, fifty-three per cent of town schools and nineteen per cent of rural schools possess some kind of musical instrument, the piano being the most common (Table 7) Twenty-six per cent of schools had enough instruments (flageolets, flutes, tin whistles) to form a band

TABLE 7  
PERCENTAGES OF SCHOOLS WITH MUSICAL INSTRUMENTS

Musical instrument	City	Town	Rural	Total
Piano	65	47	9	27
Accordeon	4	1	11	10
Harmonium	4	1	3	4
Other	9	33	27	24

### OTHER EQUIPMENT

Information was sought about a variety of other types of equipment—material for gardening and woodwork and for the study of ornithology, entomology and botany The number of schools with any such equipment was extremely small Seven schools had gardening equipment and six had botanical equipment One school had ornithological material, one entomological material and another was equipped to teach woodwork

## TEACHERS' PERCEIVED NEEDS

Teachers were asked to specify the kind of equipment they felt would be most useful to them in their work. Responses varied a great deal. Many teachers, especially those who had had experience of teaching outside the state, felt that Irish schools were very poorly equipped, and that teaching would be improved considerably if more equipment were made available. A few felt that equipment could make very little difference to their teaching, one said that equipment was of no use at all. A number did not seem to be familiar with the range of materials now available. Others again had to teach in such circumstances that they placed 'better lighting' as their greatest need in 'equipment'.

The following is a list of the equipment which teachers mentioned they would like to have. The materials are listed in order of popularity: 1, projector, 2, tape recorder, 3, maps, 4, books, 5, slides, 6, globes and filmstrips, 8, television, 9, fixed blackboards, 10, musical instruments, record players, and Cuisenaire apparatus, 13, charts, 14, equipment for art. Teachers seem most interested in general purpose equipment, like projectors, tape recorders and books—a reasonable position when one is at the initial stages of equipping a school.

## CONCLUSION

At the moment equipment in Irish schools is minimal, though there is some evidence that the trend toward better equipped schools has already begun. It seems probable that the coming years will witness a considerable increase in the technical facilities of schools. We may still be a long way from computer-assisted instruction, however the introduction of tape recorders and television can probably be seen as a first step on the road to more automated instruction.

It would be foolish to think that equipment can be added to a school without any special preparation. Since equipment can affect every aspect of a classroom and school (pupil teacher relationships, the curriculum and the organization of the school), it has to be carefully integrated into the school's activities. To ensure that teachers are thoroughly familiar with all aspects of the equipment they use—technical, educational and psychological—it may be necessary for them to take training courses in conjunction with the introduction of new equipment (7). This is not to suggest that the lives of teachers in the future will be dominated by equipment in the school. Technical facilities, no matter how complex or



interesting they may seem, can never be anything more than mere auxiliaries to the teacher

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