

Comments related to the teaching of design and technology

by school inspectors in primary school inspection reports

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This research might help you ...

- To see the comments of Ofsted Inspectors in the light of the sorts of comments they are making generally
- To see the comments of Ofsted Inspectors in the light of the recent history of design and technology on the curriculum
- To plan changes to your design and technology curriculum that are realistic in addressing issues raised by Ofsted Reports in the context of the short history of design and technology in the curriculum.

This article reports on the results of an analysis of recent Ofsted school inspection reports focusing on inspectors' observation of styles of teaching in design and technology in the years of schooling from age 5–11 years. Whilst not evaluating the inspection process this paper does draw attention to relevant inspection vocabulary and findings.

School inspection by Her Majesty's Inspectors (HMI) in the UK has a history stretching back over one hundred years. Throughout, HMI have sought to affect the standards of schooling in the UK. Latterly HMI have come under the management of Ofsted (Office for Standards in Education). The teams of Ofsted inspectors are usually made up of three to five education professionals plus one non-educationalist or 'lay' inspector. Whilst the inspectors may not all be primary specialists many are, and all have undergone a short training programme. All inspectors are approved by Ofsted. Teams of approved inspectors are led by a registered inspector who first bids for and, if successful, leads inspections. Schools are observed in action and judgements made about the standards of: achievement of the children; the schools' educational provision; the schools' efficiency; the schools' effectiveness and management. Schools will of necessity seek 'good' reports. Such overt pressure on schools warrants examination by all educationalists and citizens interested in education. This is particularly so in the case of design and technology as its history

in the primary phase of education is relatively short.

England and Wales made a bold step when they included design and technology amongst compulsory subjects for children from ages five to sixteen years. The introduction of design and technology presented a considerable challenge in the primary phase where a large proportion of teachers saw design and technology as their weakest subject (Wragg et al, 1989). Comments like this from a primary teacher were not unusual: "I just don't know where to start!" (Cross, 1993). The then four attainment targets (ATs): (AT1); Generating a Design (AT2); Planning and Making (AT3) and 2 Evaluating (AT4) were based on the design process which had become the basis of much design and technology work in schools. Teachers of infants had particular problems with, for example, the teaching and assessment of what was then AT1, Identifying Needs and Opportunities. Five years later and following several rewrites these Orders have been officially replaced by a second and more manageable version (SCAA, 1995) implemented in September 1995.

Within each inspection report, all areas of the school's curriculum are reported on individually as well as whole school issues such as special needs and the management of the school. Typically, two hundred words in the report summarise judgements on design and technology. This section is written by one member of the inspection team who collects evidence personally and from all members of the inspection team. These comments are based on evidence gained during the observation of 50 to 90 lessons or parts of lessons, depending on school size. Only a proportion of these lessons would be focused on design and technology depending on the extent to which it is taught and whether the inspection takes place at a time when it is occurring. Evidence would also be gathered from children's written work, school documentation, displays, resources and usually an interview with the teacher (often a non-specialist) who the school has identified as coordinator or subject manager of design and technology.

Within the school's report, judgements are given about the standards of children's achievement as judged by the inspection team against 'national norms' in all subjects including design and technology. Following this is a judgement as to how children are achieving in relation to their personal capability in the subject, in this case design and technology. This distinction aims to allow inspectors to cater for the different populations of children in schools. Inspectors then include a paragraph or two which summarise the design and technology observed by the inspection team. These comments, whilst attempting to be specific, are inevitably a summary so that a negative report can hide exemplary practice in one classroom and vice versa. Inspectors plainly do not have space to say all that they might wish.

Thirty-four primary school inspection reports were examined. A selection was made from reports delivered in 1994, a balance was sought between rural and urban primary schools. The comments for Key Stage 1 (5-7 years) and Key Stage 2 (7-11 years) were sometimes made jointly in a report of the whole primary school. Other reports were differentiated when the inspectors found significant differences.

Results
Reported Standards of Achievement Against National Norms

	above average	average	below average
KS1	3	19	12
KS2	3	12	19

Reported Standards of Achievement Against National Norms (n=34)

As several reports gave a differentiated judgement for infant (KS1) and junior (KS2) phases in the schools the results for the whole sample were divided and presented in the table below. The most striking aspect in the table is the skew towards average and below average figures for standards of achievement against national norms. There is also a higher proportion of below average achievement at Key Stage 2 when compared with Key Stage 1.

Reported Standards of Achievement Against Pupils' Capability

	above average	average	below average
KS1	1	15	18
KS2	1	13	20

Reported Standards of Achievement Against National Norms (n=34)

Here we see a similar picture based on a similar proportion of undifferentiated and differentiated reports. As can be seen above there are few instances of above average achievements against pupil capability. Again, Key Stage 1 has a higher number of average reports than Key Stage 2 though in both cases the majority of schools fall into the below average category.

A note must be made at this stage about the terms 'national norm' and 'average'. In research where evidence is collected from a large sample of schools a 'norm' or an 'average', might be discernible against which schools were judged. In such a case the results ought to produce the traditional bell shaped curve including a small number of above average schools and a small number of below average, with the majority between these two groups. Thus it might be possible to judge schools against the 'norm' or the 'average'. In this small sample we see a strong skew towards below average performance in both categories. Were such a skew representative of the national sample it would in itself move the national average down, and so a bell shaped curve would move! The words 'average' and 'national norms' are therefore of questionable value. Of course it may be that this sample is not random but is itself skewed towards below average. Apparent recognition of this ambiguity has led to a change of policy so that more recent reports use the term 'expected national norms' to replace 'national norms'. Exactly where such expectations come from is something of a mystery and whether such terms assist schools is questionable.

Comments About Teaching

These were varied but reflected the balance above and an apparent desire, found in other subject sections of these inspection

reports, to spell out what inspectors had seen which was good. There was almost always a positive remark even in the cases where the overall judgement resulted in a below average grading. Inspectors also used the opportunity to identify particular areas of concern. One noted that in the week of the inspection "little teaching was observed" in the subject of design and technology. Most relevant at this stage is the concern about the quality of teaching directly referred to in fourteen of the thirty-four reports. Three reports mention a "lack of direct teaching". In a number of cases, when there was teaching of the subject, inspectors felt that "design and technology was not taught in a systematic way". Five reports referred to variation in teaching quality, "some satisfactory teaching, but much which was unsatisfactory". There was considerable mention of opportunities lost, "too few opportunities to learn skills and to explore the properties of materials", "few opportunities for discussion".

Positive comments were harder to find. On only three occasions inspectors referred to teaching which was "well organised and well matched". There was considerable attention from the Ofsted teams to the type of and nature of tasks being given to young children. When tasks were referred to specifically, comments were again not positive. The following selection are representative: "over ambitious open-ended tasks"; "tasks insufficiently challenging"; "tasks not always challenging"; "(tasks) too prescriptive"; "insufficient opportunity for independent work". As has been said the reports often (on six occasions) mentioned best practice in schools, (usually a reference to one, unidentified teacher). These references often speak of the nature of the task, "clear purpose interest and challenge"; "tasks well related to pupils experiences"; "...designing and making for a specific purpose".

Whilst it has been said that there were numerous references to the quality of teaching there were only occasional specific references to matters directly related to teaching; these are considered now. Three reports mentioned starting points, one school had used the local environment, another local industry, another displayed

"good links with science". There were two positive references to progression, both referring to Key Stage 2. A "good pace" was referred to on one occasion. Breadth of teaching was mentioned in two reports, one commenting on the lack of food technology, the other that whilst cooking was observed, scope in design and technology was still "limited". Perhaps surprisingly there was only one direct reference to the expertise of the teachers in design and technology when the inspectors referred to a "lack of expertise".

Resources and accommodation were referred to directly in almost half of the sample. The single positive remark spoke of "satisfactory" resources. The National Curriculum was mentioned a number of times; most usually reference was made to the Attainment Targets "lessons were directed at ATs 2 (Generating a Design) and 3 (Planning and Making)" (DES, 1990). On two occasions inspectors felt that time allocations varied considerably from class to class.

Discussion

The results of inspectors' judgements about the achievement of children against national norms and of achievement against pupils' capability are likely to be related to the teaching that is going on. However, it must be emphasised that considerable reservation must be stated about the notion of comparisons against an 'average' or 'norm'. Firstly the data required does not appear to be available nor are criteria describing this average. Very little national evidence about performance in design and technology is available, as standard assessment tasks produced in 1991 were non-compulsory. The more authoritative Goldsmiths report (SEAC, 1991) appears to have been somewhat ignored in both the construction of the orders and consideration of 'norms'.

However, if we take the inspectors at their word we see a heavy skew towards 'average' and below 'average' achievement against national norms in this sample. This may be a simple reflection of the youth of the subject; of the fact that children may not have had the experience of design and technology previously in their schooling or

perhaps of the burden under which teachers have been placed in recent years. All of this is likely to be related to the lack of expertise of primary teachers (the majority of whom are non-specialists) and perhaps of the confusion which has built up around the subject.

As can be seen quite clearly, in this small sample there is a higher proportion of Key Stage 2 achievement seen to be below average. This might be further explained by the effect of overcrowding on the Key Stage 2 curriculum (Dearing, 1993). Key Stage 2 children may have had little or no design and technology early in their school career and so as Key Stage 2 teachers rightly attempt to make up lost ground, achievement is likely to be skewed downwards. Also important is the fact that Key Stage 2 classrooms are often not ideal places for practical work. They were often designed at a time when design and technology was not part of the curriculum. Space is often the problem, larger children require larger furniture and need space to use tools etc. HMI, in their annual reports, (Ofsted, 1993) drew attention in 1993 to a fifth of primary classes where lack of space and facilities "hindered pupil's work". It seems true that at Key Stage 2 there is less of a tradition of construction and three dimensional work than at Key Stage 1. The funding of the various Key Stages is relevant here. Key Stage 2 funding is often the lowest in the system. This may affect resourcing in terms of materials, it may affect class sizes and certainly means that classroom assistants are much less common at Key Stage 2. It is not however clear that the particular traditions of craft work and, for example, baking actually assist teachers at Key Stage 1 to deliver the recent and present National Curriculum orders for design and technology. HMI (1993) remark that too much construction at Key Stage 1 is limited to the use of "empty household packaging which was difficult to manipulate and join." Affecting the whole sample will be the fact that the present orders have confused a number of teachers (DES, 1990). One team spoke of the subject being under emphasised in the school they inspected. Other teams did talk of progressively harder tasks including one junior department of only three which

received an above average assessment for achievement against national 'norms'. This may be the crux, that **inspectors are expecting to see evidence of progression** at Key Stage 2 from work at Key Stage 1. Given the difficulties experienced in teaching at Key Stage 1 in the early days of the National Curriculum it is unlikely that much in the way of progression will be achieved as these pupils move into and through Key Stage 2. So while it is understandable that inspectors will look for evidence of progression it is, perhaps, unrealistic to expect that they will find all that much.

The second set of judgements of achievement against the pupils' capability suffers from similar problems, that of the unknown basis of any criteria and because of the greater skew and the confusion of the term average. Again if we accept that despite these problems there is a significant question coming through from these reports it may be more disturbing as there is a marked skew towards below average achievement in an area which is very closely related to expectation of pupil achievement. These expectations may be from the teacher, the pupil or more likely a combination of the two. Expectations are the result of what one has seen and experienced previously. If one is not aware that some five year olds can construct complex electrical circuits, one (child or teacher) is unlikely to expect it. Thus we have a self-fulfilling prophecy and the genuine horror of all those involved in raising standards, the spectre of low-expectation.

The comments made by inspectors about teaching vary considerably and fall into a number of categories, comments about: quality of teaching, frequency in teaching, pace of sessions, starting points, the nature of tasks, expectations, prescriptive or otherwise nature of work, progression, resources and materials etc. There are several references to the above in general terms, that they were good, satisfactory or poor. There are far fewer direct references to teachers observed directly teaching, exceptions included: "careful questioning", "clear instructions given", a "lack of direct teaching", "demonstration of skills... ..development of good discussion", "pupils

involved in selecting..(and) ...evaluating", "pupils encouraged to plan..", "...most teaching well organised...". One aspect which is referred to in many reports is the nature of tasks given to children. These are often seen as "Most tasks are set by the teacher." This is an important area of comment as the nature of the task and the role of the child within it may say a great deal about the quality of the delivery.

Teachers who are setting poor tasks need detailed advice on the sort of considerations they need when determining the approach to tasks.

Conclusion

Clarity about the expected norms would undoubtedly assist. Perhaps that is an aim of the National Curriculum? If so, we have yet to see success in design and technology. Why things should improve now in this regard is not clear. We appear to have a significant number of primary teachers (perhaps more than half of the around 300 in these 34 schools) who are unsure of the requirements of this subject to the point where their children's achievement is deemed below 'average'.

The reaction of schools will be interesting. Were such a sample to get such negative reports about, for example, their teaching of English there would no doubt be very strong reactions from schools, parents, authorities and government.

Design and technology is a new subject in the National Curriculum and there has been little, if any, curriculum development on a broad front. Any future curriculum development will need to address the following issues:

- Clarity on the substance of design and technology; this will involve developing and detailing the subject matter summarised in the statutory Orders.
- Agreement on effective methods of teaching so that teachers can be offered a range of ways forward that they can adapt to meet the needs of their particular circumstances.
- Making the subject compulsory in law and providing a limited description is a first step but unless further serious thought is given to both content and method it will be difficult to win the hearts and minds of the professionals charged with teaching it..

NOTE: OFSTED is now using a revised framework for inspections.

References

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