From a research project by
Robert Johnstone, Ian Reeve and Hedley Dick
Coventry

The Assessment of Design in the First Three Years of Secondary School

Introduction
This article arose as a result of a research project carried out by the authors while on secondment to Warwick University during 1984-85, during which time a common concern for the assessment of lower school design emerged. This common concern, despite the authors varying backgrounds and experience, led to the notion that the assessment of lower school design did not reflect the activity undertaken by the pupils.

As a group of Design teachers, the authors felt that, in their experience, the assessment of this type of work had not progressed in line with the approach itself. Evidence had been seen of Design work being assessed by the same criteria as traditional craft work. Not only does this fail to give due credit to pupils but it is also a hindrance to the development and full use of the problem solving approach. While the product remains of major significance, when assessment is being carried out, the processes leading to a solution are undervalued by both teacher and pupil: *but Design implies process and product, not simply product.*

The research project takes the form of a survey involving three large secondary schools in the City of Coventry. The sample schools were carefully chosen as we felt they not only provided a good socio-economic contrast but that they also represented a broad geographical area of the city, which covered three quite distinct catchment areas.

The study was conducted in all cases within the Craft, Design and Technology departments of the sample schools. As CDT teachers, we felt that familiarity with the subject would enable us to concentrate upon the *assessments* rather than the products themselves.

The study involved four parts:

1) We asked the Head of Department to select three pieces of work from any group within years 1-3. The selected pieces should represent a spread across all abilities; these three items of work should be selected from pupils who were given the same project or brief.
2) The individual teachers in the department should mark each piece of work, using his own criteria (be it his own or the department's).
3) The schools then gave to the authors the assessed work, completed marks and most importantly *their* criteria.
4) Lastly we circulated the departments with a questionnaire, upon which we had listed, in random order, our criteria. We asked the teachers to do two things:
   a) Place our criteria in rank order, adding in the space provided any additional criteria they would use, or would feel useful
   b) Indicate a percentage of the total mark for each criterion.

From the resonse to the questionnaire, the authors attempted to evaluate the degree to which the teachers assessments tallied with their own; where and why there were differences (if any) and to what extent these differences affected the assessment of the design work. The relationship between the authors criteria, the teachers' criteria and assessments of the completed practical work was then analysed and discussed.

Assessment Criteria — The Schools
It was evident to the authors that all 3 schools had a different approach to design assessment despite their being in a single LEA, and having a similar approach to Design. There appeared to be a wide variety of criteria, and weightings applied to those criteria, perhaps reflecting the teacher's individual training and experiences, coupled with the broad interpretation of Design Work and its assessment.

THE AUTHORS'S CRITERIA (Fig 1)
The assessment criteria drawn up by the authors was based upon:

1. The evolution of Design Education:
Design Education continues to evolve in response to technological innovation and social change. The authors felt that the criteria used to assess Design activities should encompass the dynamic nature of the subject rather than the previously static content of traditional crafts.

2. The authors's individual training and subsequent teaching experience:
Despite differing initial training backgrounds the authors were drawn together by their own experience of Design and concern for its assessment. All recognised the confusion apparant in Design departments with regard to the criteria used and their relevance to design work assessment.

3. Existing public examination syllabii:
The authors identified a 'split' system of Design Education in secondary schools: years 4-7, following mainly public examination syllabii had clear and precise criteria for the guidance of both teacher and pupils; however, years 1-3 had no such common criteria. This leads to a virtual 'two-tier' system, often with years 1-3 having little relevance to years 4-7, producing problems for teachers and pupils alike. Direct use of detailed examination subject criteria for years 1-3 would not be desirable due to their specific and specialist nature. The authors attempted to produce broad criteria which could apply to all areas of Design activity, in any year group and any subject area within a Design department.

Figure 1

MODEL CRITERIA FOR DESIGN WORK ASSESSMENT.

DEFINITIONS OF INDIVIDUAL CRITERIA.

1. UNDERSTANDING OF THE PROBLEM.
   The relationship between the final solution and the problem as defined in the original brief.

2. GAINING INFORMATION.
   Collection/collation of a diversity of information from a variety of sources.

3. USING INFORMATION.
   Developing a number of ideas from collected information. Pupil's ability to show flair and imagination - creativity.

4. QUALITY OF FINISHED PRODUCT.
   Craftsmanship, finish, presentation.

5. PRESENTATION OF DRAWINGS, MODELS AND PLANS.
   Draughtsmanship, visual impact, quality, accuracy.

6. QUALITY OF PUPIL EVALUATION.
   Ability to be constructively self-critical, analyse results in relation to the problem.

7. ATTITUDE TOWARDS THE PROJECT.
   Motivation, interest and effort shown.

8. SOUNDNESS OF WORKING PRACTICE.
   Correct use and care of tools, safety, workshop practice.

4. Current thinking as reflected in Design Education literature:
Despite a plethora of literature concerned with Design Education generally, there appears to be little aimed directly at the criteria for the assessment of Design work, particularly in years 1-3. This perhaps reflects the low status often ascribed to Design and the difficulties associated with its assessment. The Design process itself, however, is well documented and it was to this area that the authors looked for a theoretical basis to support their criteria.

5. A common concern for accurate pupil assessment generally
The authors were of the mind that accurate Design assessment in many cases was simply not happening. The use of craft criteria for the assessment of Design work will tend to undervalue Design skills and may penalise pupils in the process. In our ever changing world, criteria used for assessing learning experiences must be flexible and broad enough to cope with those changes.

Assessment should measure those aspects of a piece of work which it claims to measure. The application of craft criteria to Design work invalidates that assessment. A move towards criterion-referenced assessment would appear to be in line with present general trends in education, a move which the authors feel is more relevant to today's needs generally, and certainly to Design where the acquisition of redundant skills is undesirable and gaining a fixed body of specific knowledge unnecessary.

RESEARCH FINDINGS

THE QUESTIONNAIRE (Fig 2)

In the questionnaire teachers were asked to place eight listed criteria in rank order and weight each criterion as a percentage of the total mark.

The purpose of rank ordering was:

1) To attempt to establish whether the teachers were in agreement with the criteria, as identified by the authors, as those which reflected a Design Process.
2) To establish whether the teachers rank ordering would support our hypothesis: i.e. they would place 'product' before 'process'.

By inviting each teacher to weight the criteria the authors were attempting to establish the degree to which each teacher saw product or process as being of greater value.

The Responses

Some problems were initially encountered by the authors with the questionnaire responses; these may have been due to a number of factors:

1) The authors had not explained clearly enough the procedure requested, (even though we had confirmed our proposals by letter).
2) The teachers may have felt a little unsure about committing their ideas individually, (even though the questionnaire was completely anonymous).
3) The teachers may have given little thought to the problem of assessment, whether through lack of time or inclination; despite having expressed initial willingness to participate in the research.

In two of the three schools, the H.o.D. took the initiative by responding to the questionnaire without involving other members of his department, despite the clear indication in the covering letter that the writers required a response from individual teachers. This may be attributed to a lack of confidence in the responses of his colleagues: any criticism of a department's assessment scheme will inevitably reflect to some degree upon the department head.

Interestingly, most teachers felt it necessary to comment upon the questionnaire or the question of assessment as applied to the lower school.

To place the findings in some sort of perspective, the data was examined under two areas of enquiry:

1) Placing the criteria in rank order.
2) Indicating as a percentage of the total mark the weighting of each criterion.

These headings were further sub-divided in order to classify the material at hand.

However, in order to create a continuity between the sections, and facilitate comparisons, the data was analysed in terms of individual sample schools.

Tables 1 and 2 indicate the wide variety of response to the questionnaire. Detailed analysis of these figures covers some 16 pages, and space prevents inclusion here. However, a comparison between the individual schools points to the general trend.

Only one criterion (6), approached consistent agreement: five out of eight teachers agreed with

Figure 2

EDUCATION DEPARTMENT.

THE CRITERIA FOR THE ASSESSMENT OF DESIGN WORK

(A) Please place criteria in rank order.

(B) Please indicate a % of the total mark you would allocate to each of the criteria.

		(A)	(B)
1.	UNDERSTANDING OF THE PROBLEM.	1	15
2.	GAINING INFORMATION (RESEARCH).	2	10
3.	USING INFORMATION.	3	10
4.	QUALITY OF FINISHED PRODUCT.	4	20
5.	PRESENTATION (INCLUDING DRAWINGS, MODELS, PLANS ETC).	5	15
6.	QUALITY OF PUPIL EVALUATION.	8	10
7.	ATTITUDE TOWARDS THE PROJECT.	7	10
8.	SOUNDNESS OF WORKING PRACTICE.	6	10

ARE THERE ANY CRITERIA WE HAVE NOT INCLUDED THAT YOU WOULD USE? IF SO, PLEASE STATE BELOW.

1.	.....		
2.	.....		
3.	.....		
4.	.....		

the model ranking of 8. Criterion 1 showed the next largest degree of consensus: four out of the eight teachers agreed with the model ranking of 1. For the remaining criteria, 0 to 2 was the range of agreements with the model.

Some consensus amongst the teachers can be found outside the model; in particular, criterion 3 was placed fourth by four teachers out of eight. However, the fact of initial department consensus in school may well invalidate this observation.

Overall, there was wide disagreement between the schools, and the teachers within them, as applied to ranking of the criteria.

A similar pattern was observed when considering the weightings given to the criteria. Some consensus was to be found in only two criteria (1 and 2), not only between teachers and schools but also with the model.

Criteria	School								Model
1	10	25	**15**	**15**	**15**	10	10	25	15
2	**10**	**10**	15	8	8	**10**	15	**10**	10

Once again, however, some of this agreement may be attributed to the departmental consensus described previously.

Despite a wide variance of individual teacher scores, (illustrated below),

Criteria	Teacher Score Max.	Min.	Mean X	Model
5	30	5	16.8	15
8	18	2	10.5	10

the mean of all teachers scores remained surprisingly close to the model. Criteria 6 was the largest exception to this, being 4% below that of the model.

Overall, the authors feel that the results show a lack of consensus in both ranking and weighting of the criteria. This indicates to the authors support for their hypothesis, in that a lack of consensus reflects confusion amongst teachers as to the nature of the Design Process and its subsequent assessment.

DISCUSSION OF THE FINDINGS AND THEIR IMPLICATIONS

Statistically, the results of this study would not allow generalisation, with such a small sample, in a single LEA. However, in the authors experience the definite trends identified linking assessment procedures to the work being assessed may be common to many schools in many authorities.

The authors are aware that their research has several shortcomings. At no time were they able to investigate the background of the teachers, (in terms of their college background and thus their Design ideology); or the social make-up or general ability of the groups assessed in the sample. The individual teacher attitudes towards the study were not catered for, and these may well have skewed the results to some extent.

The authors lent heavily on the trust of the individual teachers in filling in the questionnaire sensibly and separately, and as was shown in the results, certainly in the latter area, this was not the case. The number and variety of responses, perhaps resulting from an inherent need to 'fake good', caused the authors added concern; and thus throw further doubt on the reliability of the results. However, the authors were anxious to keep the time required of the teachers to a minimum in the hope of gaining their co-operation, thus accepting that the results would be limited.

The nature of the enquiry is in itself fraught with problems. What is Design Education? How can it be tested? As a result, any interpretation, including that of the authors, will be subjective.

There is also the point that whatever a teacher says his attitude is, or his intentions are, one can never be sure that what he says will correspond with the action that he will take at a later date.

So it is important that the discussion which follows should not be viewed as a series of facts, nor the applications suggested as a simple recipe for solving the problems in assessment for lower school Design based activities.

SCHOOL :											
TEACHER :	1	2	1	2	3	1	2	3	$\bar{x}$	OUR RANK ORDER
CRITERIA 1	1=	1	2	2	2	1	5	1	1.88	1
2	1=	4	3	7	7	2	3	4	3.88	2
3	1=	5	4	4	4	3	4	5	3.75	3
4	1=	3	6	3	3	5	2	2	3.13	4
5	5	2	7	6	6	4	1	6	4.63	5
6	6	8	8	8	8	7	7	8	7.50	8
7	7=	6	5	5	5	8	8	3	5.88	7
8	7=	7	1	1	1	6	6	7	4.50	6

Information from Questionnaire

Table 1: Rank Order Scores

SCHOOL :										
TEACHER :	1	2	1	2	3	1	2	3	$\bar{x}$	OUR CRITERIA
CRITERIA 1	10	25	15	15	15	10	10	25	15.6	15
2	10	10	15	8	8	10	15	10	10.8	10
3	10	10	15	15	15	15	10	10	12.5	10
4	30	20	10	15	15	20	20	25	19.4	20
5	20	25	10	12	12	20	30	5	16.8	15
6	10	3	5	5	5	10	5	5	6.0	10
7	5	5	12	12	12	5	2	15	8.5	10
8	5	2	18	18	18	10	8	5	10.5	10

Table 2: Percentage Criteria Scores

THE QUESTIONNAIRE

As the findings section of the study indicated, there were a number of problems concerned with the response to the questionnaire. In some cases this was probably due to individuals not reading the covering letter or instructions carefully enough, but part of the cause may have been the design and presentation of the questionnaire itself.

During the authors' study of the findings, several points were revealed about the design of the questionnaire and these may be summed up as follows:—

1) The Criteria. Several teachers responded with questions about the criteria and their interpretation. The authors felt that it would have been advantageous if the detailed criteria descriptions had been made available to the teachers, perhaps on a second page. The schools' own marking criteria have been criticized by the authors for lack of clear meaning; the questionnaire criteria could perhaps be similarly criticized.
2) In most cases, the teachers responded to the rank ordering and weighting columns in such a way as to indicate that the two aspects were 'tied together' and complementary. In retrospect, it may have been more valuable had the authors presented two questionnaires, one asking for rank ordering and a second seeking weightings. Some comparison may then have been possible, between the two aspects. The authors felt that a lack of statistical material was a weakness of their questionnaire, although much useful information of a non-statistical nature was gathered.
3) Despite being asked to do so, no teacher felt able to rank order or weight the additional criteria they had added. In most cases the authors felt that where a teacher had included additional criteria he had failed to appreciate the model criteria fully and was duplicating rather than adding. A future questionnaire could omit this section, avoiding the confusion that it caused some teachers and perhaps concentrating

upon the model; which was intended to be *a model* and *not a definitive statement* of criteria for Design assessment.

4) Overall, the authors felt that although more statistical material would have been useful and that the design of the questionnaire was, perhaps inevitably, far from perfect, it did, however, elicit information which tended to support the hypothesis and certainly exposed a field in which much work needs to be done.
Criterion-referenced as opposed to norm-referenced assessment has gained much credability of late and would seem set to continue to do so. This must lead to greater pressure upon Design to put its house in order with regard to criteria and assessment.

TEACHERS' TRAINING AND BACKGROUND

The questionnaire was not designed to take into account the training and experience of the teachers taking part. It assumed a general acceptance of the Design Process and a problem solving approach to the teaching of Design. The responses to the questionnaire, however, point to training and experience as a major factor in the teaching and assessment of Design, and expose a marked lack of consensus as to the approach to both.

The schools chosen for the study all have departments designated 'Design' as opposed to 'Craft'. The authors assumed, perhaps mistakenly, that the staff within these departments would have similar training and philosophy to themselves. The questionnaire criteria were produced using this assumption. Subsequent enquiries, and the questionnaire response, revealed that several of the teachers who took part did not have a 'Design' outlook but are still basically craft teachers and, indeed, at least one teacher has an industrial background and came directly into teaching without formal teacher training. While diversity of background may be desirable within the teaching force, for design education to gain full acceptance both inside and outside schools, the authors feel that a national approach to training with some degree of consensus is vital. While there is no agreement as to the aims and content of Design in schools, there seems little hope of agreement over assessment. It would appear that while lip-service is being paid to Design in some schools, the crafts tradition continues, to the detriment of pupils.

All this points to the need not only for a more coherent approach to Design teacher training, but also to the need for an extensive in-service programme which examines the Design curriculum, its execution *and its assessment*. The new 16+ examinations have begun to tackle the problem but little attention has been paid to the vital foundation years of design education. The current concentration on the 14+ area with TVEI, CPVE and so on further draws attention away from the younger pupils. The authors believe this to be a damaging trend for design education and one of which teachers should be aware.

THE AIMS OF ASSESSMENT

The authors felt that assessment held a low priority in the minds of Design teachers and was paid scant attention in many cases. The findings of this study would seem to support that view.

There are several reasons for this situation. The first is the very nature of Design: approached in an open-ended individual manner, each pupil in a group will produce, from a common starting point, an individual response or 'answer' to the problem. For the teacher this immediately presents assessment problems if he is using a norm-referencing approach: no two results are alike, there is no 'wrong or right' answer and although different, each response may be equally valid. The craft approach to assessment is of no use at all. The authors feel that this problem alone affects the way teachers see Design and their approach to its teaching: it is so difficult to mark in the traditional way that rather than devise an assessment system, many teachers avoid a true Design approach so that the results are similar and can be marked in the traditional way. The philosophy seems to be that if it can not be assessed in the usual comparative way the problem lies with the curriculum content, not the assessment method'.

To this needs to be added the purpose of assessment: why mark/assess pupils, what value or use is marking? Unpopular as it is with most teachers, assessment is accepted as necessary. There are some aspects, however, which teachers may not usually recognise. If asked, many teachers would probably see the main purpose of marking as a way of reporting, mainly to parents, the progress of the pupil. This is certainly one purpose. But should not assessment be two-way: a means of monitoring the curriculum, its content and method of presentation? The norm-referenced marking system as used in the craft situation will be of little value to the teacher who wishes to measure the success of his course, but the authors feel a criterion-referenced system, carefully monitored could provide valuable feed-back which may be used in curriculum development.

RECOMMENDATIONS

The information gained during this study indicates a low priority in the assessment of pupils' work. The difficulties of making good assessments of true Design work are undoubtedly numerous. The authors believe that efforts must be made to tackle the problems, and to this end present a 'model assessment scheme', in an attempt to take the discussion forward.

Teachers generally, and perhaps Design teachers in particular, are under some pressure to respond to a number of new initiatives: criterion-referenced assessment, vocational education, technology, community initiatives and so on.

The writers recognise that criticism, particularly from an external position, is always easy and may overlook the numerous aspects of a particular problem. An effort has been made, therefore, to

Figure 3

LOWER SCHOOL DESIGN PUPIL PROFILE REPORT

PUPIL NAME	DATE	FORM	YEAR GROUP
PROJECT DETAILS			TEACHER INITIALS

CRITERIA FOR MARKING	HIGH	ATTAINMENT	LOW
1. UNDERSTANDING THE PROBLEM.	FULLY UNDERSTOOD THE PROBLEM.		VERY POOR UNDERSTANDING OF THE PROBLEM.
2. GAINING INFORMATION (RESEARCH).	EXPLORED A WIDE RANGE OF INFORMATION.		NO USE OF ADDITIONAL INFORMATION.
3. USING INFORMATION	USED INFORMATION TO THE FULL.		LITTLE USE OF INFORMATION IN THE DEVELOPMENT OF IDEAS.
4. QUALITY OF FINISHED PRODUCT.	WELL EXECUTED TO A HIGH STANDARD OF CRAFTSMANSHIP.		POOR QUALITY OF PRODUCT INDICATING LOW LEVEL OF MANIPULATIVE SKILLS.
5. PRESENTATION (INCLUDING DRAWINGS, MODELS ETC)	WELL PRESENTED SHOWING A HIGH LEVEL OF AESTHETIC AWARENESS.		POOR LEVEL OF PRESENTATION WITH ITEMS MISSING OR INCOMPLETE.
6. QUALITY OF PUPIL EVALUATION.	ABILITY TO CRITICISE OWN WORK IN RELATION TO (1).		UNABLE TO CRITICISE OWN WORK.
7. ATTITUDE TOWARDS THE PROJECT.	HIGHLY MOTIVATED AND IDENTIFIES WELL WITH PROBLEM.		LOW MOTIVATION NEEDS CONTINUAL ENCOURAGEMENT.
8. SOUNDNESS OF WORKING PRACTICE.	SYMPATHETIC USE OF TOOLS AND EQUIPMENT.		SHOWED LITTLE SYMPATHY FOR USE OF EITHER TOOLS OR EQUIPMENT.

ANY ADDITIONAL COMMENTS BY THE TEACHER. TO INCLUDE POSSIBLE OPTION CHOICES AT THIRD YEAR.

take into account as many factors as possible and present an overall view of the current situation with regard to Design assessment.

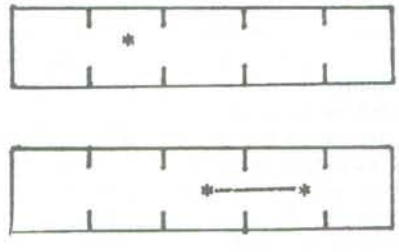
The authors present the following notes and sample assessment sheets as a contribution towards the debate.

PUPIL PROFILE REPORT (Fig 3)

The purpose of the profile form is such that the pupil at the conclusion of a project, is assessed in a manner related to the process of 'Designing and Making'.

The model profile could, the authors feel, be used in any area of creative studies, that is, working in a design based, child centred manner. The authors are emphatic that this is *purely a possible model* and wish to point out that in no way do they wish to be prescriptive about its use.

The listed criteria have no weighting in relation to one another and at no time should there be any attempt to provide a weighting or convert scores into a grade. The criteria relate to the Design Process, pupil attainment being scored by a marked cross in the appropriate box. (see below)



or

The position of the cross is related to the assessment criteria as laid down for each end of the scales. It should be noted that the box at the bottom is for the teacher to make a comment, if appropriate.

PUPIL EVALUATION (Fig 4)

The authors feel that it is an important part of any learning activity for a child to be able to cast a self-critical eye over his work. The thinking behind the pupils' evaluation sheet is to stimulate pupil thought about the activity he has taken part in and moreover to provide a feedback for the teacher.

It should be noted that Bi-Polar scales are used for both teacher and pupil assessment sheets: this was a conscious decision on the part of the authors in order to familiarise pupils with the use of such a type of scale. If the pupil can understand the scale, it is easy for him to explain it to his parents when a report is taken home. Many school reports have scales that mean little, even to parents who are well informed. Comments on reports are continually criticised by the media and within the profession.

This system of criterion-referenced assessment, (using Bi-Polar scales), is an attempt to give a simple profile of pupil activity and achievment. The report should be easy for the teacher and pupil to complete and for parents and any 'interested others' to understand.

Design is an activity which relates to a 'process', rather than an end product and one which may vary from project to project but overall remains broadly the same. 'Process' is not readily assessed, as this study has shown, with a great temptation to revert to, or remain with, product assessment as a result.

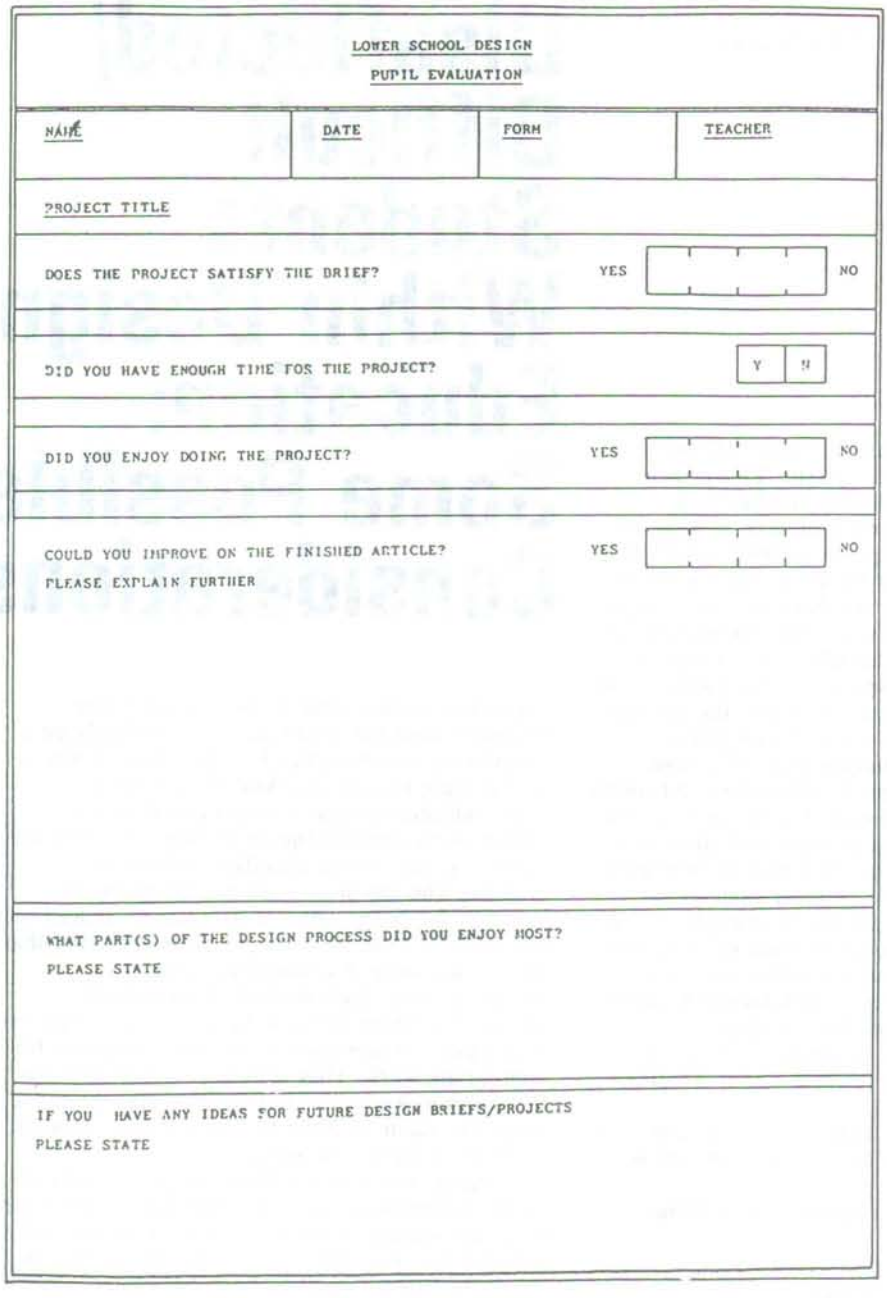
Assessment in schools of all subject areas often fails to provide a true picture of the nature of the activity undertaken. The traditional school report gives little opportunity for the teacher to indicate fully the breadth of activity the pupil has undertaken and further it restricts the effectiveness of reporting, providing little opportunity for feedback either concerning the pupils progress or the course structure.

Conclusion

National concern for assessment and the movement towards criterion-referencing have focussed much interest upon pupil and school performance of late. Discussion about the content of the secondary school curriculum has been growing since the mid 1970s and continues to attract attention from several quarters, namely: Central Government, DES, MSC, CBI amongst others.

However, the aspirations of national bodies may not reflect the expectations of that group of people closest to the activity, i.e. teachers, pupils and parents. All parents have attended some form of full-time education and may consider themselves

Figure 4



LOWER SCHOOL DESIGN
PUPIL EVALUATION

NAME	DATE	FORM	TEACHER

PROJECT TITLE

DOES THE PROJECT SATISFY THE BRIEF? YES [ ] NO

DID YOU HAVE ENOUGH TIME FOR THE PROJECT? Y N

DID YOU ENJOY DOING THE PROJECT? YES [ ] NO

COULD YOU IMPROVE ON THE FINISHED ARTICLE? YES [ ] NO
PLEASE EXPLAIN FURTHER

WHAT PART(S) OF THE DESIGN PROCESS DID YOU ENJOY MOST?
PLEASE STATE

IF YOU HAVE ANY IDEAS FOR FUTURE DESIGN BRIEFS/PROJECTS
PLEASE STATE

'experts', at least in the type of education they themselves underwent. But, do they understand the new concepts of education, i.e. 'problem-solving' as opposed to the 'banking' concept of stocking up with a certain amount of pre-determined knowledge? Thus, a parent's, (and perhaps a teacher's), attitude to school and education is at the same level as his own education. Concern for this area led the authors to choose sample schools with different socio-economic backgrounds.

Is there any difference between the schools: does the social background and aspirations of the parents have any bearing on the attitude of the teachers? Are working-class parents content with the present system of assessment and reporting? Do they take an interest in their child's work — if not, does this reflect on the attitude of the teacher?

Attitudes to education may vary according to the viewpoint of the observer, be it parent, teacher or pupil. This applies to all aspects of school and curriculum; perhaps closer communication is one answer to a lack of understanding. In other words, could attitudes be modified by better teacher/parent/pupil relationships through shared objectives?

The study does indeed identify a number of objectives shared by the majority of teachers. Excellence in practical skills (the finished product) figures high on several lists. But is this Design? Is this, in fact, the most important facet of the Design Process? It certainly is the most tangeable to pupil, parent and teacher alike, — the pupil is satisfied (he takes something home), the parent is happy (he can identify the product with his own school experience), the teacher is happy (the product is easy to assess).

Teachers, rightly or wrongly, are seen as the 'professionals' and it is therefore up to them to awaken interest in the 'problem field' of assessment. However, increasing pressure from Central Government, through the LEAs, to take on even more initiatives, (just at a time of low teacher moral), thus resulting in even less time for the teacher, (who already sees assessment as of low priority,) — could push the issue even further into the wilderness.

Solutions to most educational problems are to be found in the schools, but there are external pressures like the present insistent demand for paper qualifications, and the intervention of non-educational bodies, for example the MSC.

> 'National recognition is not enough, we now need a determined campaign at local level to convince parents, careers staff and employers that schools are staffed and equipped to provide evidence not only of academic achievement but also of other abilities'.
>
> (The Design Council, 1979)

Accurate and understandable assessment methods are vital if this 'campaign' is to achieve its aims.

Bibliography

City of Coventry Education Department (1981). The Management of Design and Technology Based Courses . . . A discussion document.

Coventry CDT Teachers Lower School Working Party Report (1980). The Problems of 'Marking'.

DES (HMI) (1983). CDT — A Curriculum Statement for the 11-16+ age group.

Keenan, P. (1984). Evaluating Design Abilities using the APU approach. *Studies in Design Education, Craft and Technology,* Volume 17, No.1.

Kimbell, R. (1982). Design Education: the Foundation Years.

The Design Council (1979). Design Education at Secondary Level . . . A consultative document.