

# FORUM

## FOR THE DISCUSSION OF NEW TRENDS IN EDUCATION

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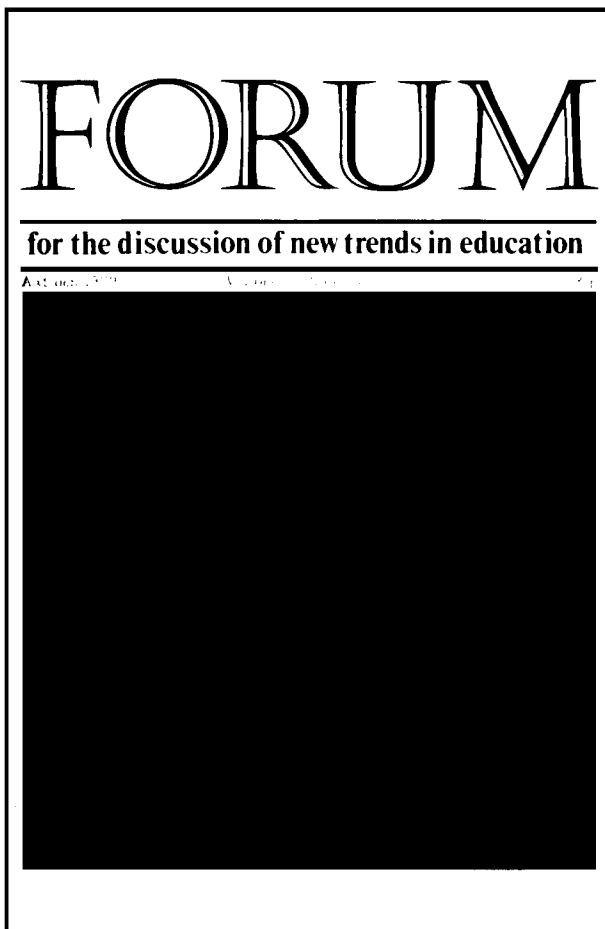
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# The New Forum

In September *Forum* will appear in a new format. The block below shows the front cover. Our main objective has been to make the journal more attractive and readable. To achieve this we are moving to a larger size (A4) which allows more flexibility in lay-out. Both two and three columns per page will be used. Other typographical changes should enhance the look of the journal while keeping its distinctive character.

We start the new format with a new volume, which will reduce binding problems for libraries and others. We are glad to be able to keep the subscription as at present, at £2.50.



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# 'Mixed Ability' Teaching and Learning

We make no apology for focusing this number, once again, on teaching non-streamed classes, or, as it is more generally described, on 'mixed ability' grouping. This remains a crucial issue, the more so as comprehensive education is extended, since this determines whether differentiation of groups of students is to be perpetuated within 'comprehensive' schools, or whether this transformation of the schools is to be taken to its logical conclusion through the final abolition of practices imposing a basic distinction between children from an early age.

The HMI survey, *Mixed Ability Work in Comprehensive Schools*, discussed in our last number, specifically warned against the adoption of this form of organisation except in very special circumstances. We criticised this report for its mechanistic approach to teaching and learning – and for its failure to give meaning to the concept of 'ability', on which much of the reasoning in the report was based. In order to help to clarify these matters, and to open up the subject for a wider, more informed, debate, we publish a number of articles in this issue on this topic.

Two of these, those by Lee Enright and Stephen Rowland, take us inside the classroom and present case studies of the work and activities of particular children or groups of children. Stephen Rowland presents an alternative model of learning to that espoused by the HMIs; and thereby calls into question the concept of 'programming' teaching 'for the various levels of ability' proposed by the HMIs as the over-riding principle of classroom organisation. Sarah Tann reports on research into group discussion and learning in primary and lower secondary classrooms which remains a technique at present little exploited, but clearly having direct significance for the promotion of learning in the non-streamed situation. The articles by Mike Torbe and Pat

Jones, both with considerable experience of unstreamed teaching at the middle secondary stage, contribute further to this discussion. There is nothing here to indicate that 'mixed ability' teaching cannot be a practical proposition, if properly prepared and supported, not only in primary schools where it is now almost universal, but also through the secondary stage to sixteen.

Two other articles, those by Ray Russell and by L.A. Bell and his colleagues, are concerned with the transition from the streamed selective approach of the past to the unified school (as the move to unstreaming may best be described), while Andrew Finch, in his article on Public Examinations, shows how the long delayed reform of the examination system, and in particular the development of a single examination at 16, is a necessity if comprehensive schools are to be able to develop their potential.

As we go to press it seems that a general election will be fought in May – if not, it cannot be long delayed. The implications for education are likely to be considerable. The struggle for the unified secondary school is, however, very much a grass roots movement from below, spear-headed by advanced teachers. To maintain its impetus is a matter of some significance for education. It is for this reason that we have devoted this special number to this issue.

In our next number, as promised, we will return to the question of the Assessment of Performance Unit, local authority mass testing, and the alternative of in-school and teacher self-assessment. With that issue, as noted elsewhere, *Forum* will appear in a new, up-to-date format which we expect will prove attractive to our readers. It seems clear enough that there will be plenty of issues in the 1980s with which *Forum* should, and will, be closely involved.

# Learning in my Classroom

Lee Enright

Lee Enright has been a middle school teacher for five years. She is a year co-ordinator at West Moors Middle School, Dorset. This article arose from discussions at the first conference of the Progress in Education Group.

Last February, at a conference of the newly-formed Progress in Education Group, I listened to Michael Armstrong as he described the struggle of eight-year-old Paul trying to come to terms with his artistic achievements. I was struck by the fact that there was little or no mention of other children in the class. I had at that time become interested in the way ideas move around a class, developing as they go. How many of my children were like Paul – apparently unable to take part in this flow of ideas, either because they felt they always had to be ‘original’, or because they had no reason to believe that other children’s ideas had real value? Would it be possible to track such ideas and note their stages and developments?

I had recently discovered the term ‘learning process’ – I had not discovered its meaning, but realised it was about time I tried to do so. Would I be able to recognise one when or if it happened in my class room?

Children’s autonomy was another problem. I had ‘allowed’ my children to work on an assignment system, whereby they were to complete their work by Friday lunchtime. They were able to choose the order in which the tasks were completed.

Michael Armstrong recorded his research in the form of a diary, written up two or three times a week. The only way I could be reasonably certain of recording the sort of information I needed was to record the whole of every day’s events, and this was the task I set myself.

A 9-13 middle school, we opened in September 1977 with the first two years only, a total of 190 children. I worked in the second year, which contained 83 children in three mixed ability groups. The children spent most of their time with their class teacher, but had specialists for PE, Music, French and remedial reading. In art sessions they worked with the specialist and

their class teacher. My class was also involved in piloting Man: A Course of Study (MACOS) in Dorset, and worked on this with Maggie Gracie, who is also the school’s deputy head.

Maggie had also been present at the conference – indeed, it was she who suggested I might attend – and was more than willing to make the diary a joint project. She knew the children well, not just from teaching them, but also through club and out-of-school activities. She agreed to read the diary as it was written, and to add her own notes, either as a comment on something I wrote or as a record of something that happened between her and the children. The diary was kept during the first seven weeks of the summer term 1978.

On 10 April, Maggie and I took my class to Brownsea Island to observe herring gulls for some MACOS work. The following is an extract from the diary of 11 April. The complete entry is too long to include; sections have been omitted rather than re-written.

11 April 1978

*After break I talked to the children about the non-compulsory follow-up work. At first not many children seemed willing to do any. Then I asked what sort of work they thought I might expect. Their answers ranged from ‘writing’, ‘diary’, ‘picture’, ‘poem’ and ‘collage’, to ‘not rubbish’ and ‘our best’. I made no comment on any of these answers, trying to get the children to search for as many ideas as possible. I then went through a list of things I thought had interested different children, Maggie and I made a list of these yesterday, comparing notes after the children had gone home, without mentioning any names. This seemed to spark off many of the children, and fairly quickly lots of them were up and doing, although several of them needed reassurance*

that a) their job card, list of assignments, would be marked off, and b) their follow-up idea was 'acceptable'.

I was therefore able to spend more time with Pauline, talking about all the different sensations she experienced yesterday. Pauline has an amazing way of finding the exact words she needs to express her meaning. I wrote down the word *COACH*, and asked her to tell me all the things she felt when she was on the coach. She said *BUMPY, STUFFY, SICK*. I then wrote *BOAT*, and suggested she spend some time thinking what ought to go there. She wrote *COOL, BREEZY, SWAYING, LAUGHING, HAPPY, TASTING*. The next heading she wrote was *EATING OUR DINNER*, under which she wrote *HUNGRY, DELICIOUS, SATISFIED*. Then came *ON THE CLIFF: SCARY, EXCITING, SLIPPERY, HURRYING and SHELTERED*. I asked her next to think about how she could present these ideas – story, picture, poem . . . ? Towards the end of the afternoon she came up with this, unfinished, piece of writing –

*'The coach journey was very bumpy and stuffy. It made me feel sick as we jogged from side to side. The boat journey was quite different. It was lovely and cool. There was a slight wind, and the waves gently tossed up and down. The rest of the class was having fun and it made the journey better still. The nasty thing about it was we soon got to Brownsea Island, and that was the end of the boat trip. I was getting very hungry, and when we stopped for lunch I felt as if I could eat anything. Later we went on a cliff. We climbed from the beach. I felt excited but scared.'*

Mandy started the day quite convinced that there was no way anyone was going to interest her in any Brownsea work. Instead, she started working through her job card, but came to a stop when she started to wonder which subject she would choose for her Write-About, expressive writing. Those on offer were Ghosts, Brownsea Island, Aeroplanes, Scrambling. I asked her, half joking, what was the most important thing in her life at the moment. Her answer came immediately – school. Her reason was that you learn things at school. I asked her for an example and she pointed to the Overhead Projector. I asked her if she had learned any new ideas since she came to West Moors, but this was, I think, a rather difficult thing for her to understand. I suggested that she think about the whole idea of school and learning, and then get some points down on paper. She got as far as 'When I first came to this school', and then got side-tracked.

After his initial interest, Stephen had decided not to

go any farther with the shells he found yesterday, so Maggie decided she would instead. She happened to sit next to Mandy, and the inevitable happened – Mandy found far more fascination in handling and smelling the shells than in grappling with the rather complex idea of learning. She was soon working quite happily alongside Maggie, and later came up to ask if this work could be counted towards her job card. We negotiated a compromise, and the work done on shells will replace her Write-About.

Denis had a very up and down day, and he was the one child whose work really got inside me. He began by wanting to do some Brownsea work, but refused point blank any suggestions I made. Terry had very quickly decided that he was going to 'do' the tanker liner we saw, and I think that Denis had wanted to do this. Eventually Denis decided to do a picture of a Dutch survey vessel we had seen in Poole Harbour.

He started with a fairly small piece of paper, but discovered he could only fit half the boat on. I told him to get another piece so that I could sellotape the two together. He misunderstood me, and the next thing I knew, had yet another half-drawn boat on a larger piece of paper. This time I made myself clear, but it was time for the class to go to French. When they returned, several of them, notably the job card ones, wanted my attention, so I asked Margaret to sellotape the paper for him.

The rest of the morning was spent drawing, but Denis wasn't satisfied with the empty spaces, so I promised to get him a book on boats to look at. In the afternoon he added a life-boat and various other details, as well as a carefully drawn boat which contained our children on their way to Brownsea. So far so good. Port-holes were to be added, and this was where the aggro started. The first port-hole was OK, but as he drew a line of them, they became more and more scribbly, and I expressed my annoyance at his carelessness. There were several attempts before he and I were in agreement, and I got annoyed with myself because this surely was wrong, but I could see no way around the problem. Here was a new departure for Denis (a large scale work), one that looked like being a real morale booster for him, yet he seemed to be on his way to destroying it. I also knew that this wasn't the way I should be treating Denis or any other child, but I still couldn't bear the idea of his inevitable (apparently) disappointment. The side of the boat was painted white and left to dry

— *maybe some small circles of paper could be cut out and glued on. This, though, I will not suggest. The next move must come from Denis.*

Keeping the diary forced me to look closely at myself, the children, and our interaction. Writing up what was happening in the class made me think twice about the things I did and said. It also opened areas for possible future research.

1. The longer I kept the diary, the more it seemed that children simply need more time to formulate responses. Some needed up to a fortnight before they were able to record their responses to Brownsea. Transcribing a conversation I had with Douglas, Philip and Andrew, I realised how often I jumped in before Douglas had a chance to have his say. Out of 46 contributions, I made 24 — and interrupted Douglas six times. I now consciously allow more time for children to put their thoughts into words, and *understand* why class or group discussions need to be kept short — not all children can cope with waiting.

2. If decisions about a child's work can be made jointly, a bargain can be sealed with respect on both sides. This does not mean that all children can cope with organising all their work all the time. If, however, I want to help children to develop research skills, use a paint brush confidently, measure accurately or talk fluently, there is no reason why they should not negotiate what is researched, painted, measured or talked about.

After what I consider to be a disastrous afternoon, when Maggie and I did some map work, I made the following entry in the diary:

*I think what upset me most was the fact that I have been trying to get them to be critical in evaluating their own work, to set their own tasks, and to regulate their week's work — but this afternoon we virtually told them that there was no way they could get on until we had OK'd each part of their work; i.e. we know what we want, and unless you give it to us you are wrong. How different, too, was the atmosphere in the room: when they had made the decisions about how they were going to tackle a problem they worked calmly and steadily without compulsion. As soon as we removed this responsibility they lived up to our implicit expectations of them — acting irresponsibly, almost as if*

*they had never had the responsibility in the first place.*

3. Writing is not the only way of recording responses. The follow-up work to the Brownsea trip included prose, poetry, painting, drawing, clay modelling, cardboard modelling, bead collage, fabric collage, tape recording and dance drama.

Territorial behaviour of herring gulls was something the class had studied in MACOS. Denis and Peter were fascinated by the peacocks we saw on Brownsea Island. As they told me about them, Denis began to move the way he said the peacocks moved — and their dance drama grew from there.

Tape recording was first used by Denis for storytelling — it helped him around his difficulties with written work. Recording his work added to it enormously, and showed his ability to tell a long story, fluently, without using the pause button. One feature I found interesting was that the children *acted out* their story as they recorded it. Active learning is encouraged in maths — why not in language work?

4. On the movement of ideas. Looking at *some* of the art work done after the visit to Brownsea I noticed:

- Tim used two shades of screwed-up tissue paper to represent the sea. This technique was used the previous term by Judy and Linda.
- Three girls made clay models of peacocks, arranging beads in the tail to represent the 'eyes' of the feathers. The peacocks were made without legs.
- Caroline made a collage of a peacock, using screwed-up tissue paper and beads for the tail. It is cut out, has no legs, and uses bugle beads for the beak.
- Sheila made a collage of a peacock. It is cut out, uses beads for the 'eyes' of the tail. The body is done with tissue paper and marvin. Bugle beads are used for the beak, legs and feet.
- Helen made a collage of a peacock. She used marvin and tissue paper, and sequins for the 'eyes' of the tail. It is cut out. Bugle beads are used for the legs, feet and beak.
- Anne made a collage of some people in a boat. She used fabric, beads, sequins, screwed-up tissue paper, marvin and tissue paper, and felt tip pen.

In art work, imitation is often considered to be the sincerest form of flattery — an ideal starting point for children to appraise and adapt each other's ideas.

5. Maggie and I became fascinated by the ways in

which children struggled with perspective, scale, joining and multi-media art work.

*Michael, Douglas and Gary spent most of the day making a superb 3D model of a seashore, using corrugated card, wire and paint. All went well until they tried to support the back of the scene. Various bits of wire were tried unsuccessfully, so I held up the model and asked them what sort of support they thought would do. Bent card seemed popular, but they quickly decided it would not do. Lately we have been doing some work on angles in maths, and I asked them if they could see any kind of angle between the upright backdrop and the table. They saw a right angle, and I said I thought the sort of heavy, layered card Helen was using might be useful. They tried it various ways against the model, finally coming up with the idea of holding the card at right angles to it. I asked them what sort of shape would be best, had they seen anything similar anywhere else, and Michael came up with the idea of a triangle. They disappeared to the Art Room, and came back with a square of card which Philip said would be cut diagonally in half.*

*Maggie added: Brilliant use of wire, threaded through the corrugations to keep the rocks upright. A real technical breakthrough – and when I asked them whose idea it was, they said it was theirs.*

Denis covered any empty spaces in his exercise books with tiny drawings. Thus, a large proportion of his artistic efforts were 'illicit'. I gave him an exercise book with blank pages, and immediately his drawings were 'acceptable'. It also meant that he was never without an activity he enjoyed doing. It soon became part of his normal work. Now, Drawing Books have equal status with Maths Books, Science Books, etc.

6. One afternoon I took part in a practical session that Maggie led. The following extract shows possible reasons for anti-social behaviour that could be encountered in any classroom:

*I felt some of Denis's bad temper this afternoon, but could not work out why. I had been looking forward to the work, and asked to be given a task – we were making objects out of string, paper and lolly sticks as part of the Structure and Function section of MACOS. Looking back several hours later, I'm almost sure my*

*enthusiasm drained when I was given my task – make something to amuse a trout, we had four in a tank in the class. In any other situation I would probably have roared with laughter, but today it simply produced teeth-grinding frustration. I had no idea where to begin – it was difficult enough to make anything with the materials, but how do you amuse a fish? The concept was beyond me – and here, surely, was where I learned most: an inability to cope (for whatever reason) with a given task – however exciting its context – produces an inability to cope with life in general at that moment. Everyone accepts that bad behaviour often stems from a child being given work which is irrelevant or too abstract, but until today I don't think I ever realised just how upsetting it was, particularly because I didn't understand at the time WHY I felt angry.*

7. Unconsciously, I had always thought of the teacher/class relationship as that of a performer/audience. Since my first teaching practice I had always analysed their reaction to my performance. By the end of the diary I began to realise that they were the performers and I was the audience of one. I also saw the value of audience participation!

This diary was a joint project. Although I have quoted only one short contribution from Maggie, the part played by her in the task was vital. Maggie involved herself in the research in a way that meant three lines of inquiry existed – hers, mine and ours. Without her encouragement and support I doubt if I would have spent fifteen hours a week 'writing about it'.

Some questions remain. I gathered data about the movement of ideas, but I did not record the order in which ideas affected different children.

'Learning process' is still not completely clear, although I think I am nearer an understanding of process, which may well increase my own learning.

Children's autonomy in the classroom is not fully resolved. In a school which takes curriculum development seriously (though not dogmatically) it is not possible, perhaps not even desirable, for a teacher to have complete autonomy. At the same time, however, I have learned to include the children in my planning sessions.

I intend to repeat the diary this summer; there seems no way of avoiding it, and perhaps this time I will see the wood as well as the trees.

# Ability Matching: A Critique

Steven Rowland

Steven Rowland is a teacher at Sherard primary school, Leicestershire, but is at present seconded for research into primary teaching and learning. This article derives from this research.

Both the HMI's reports *Mixed Ability Work in Comprehensive Schools* and *Primary Education in England* use as a criterion of the successful classroom, one in which the ability of the students is matched to the courses of work which they follow.

The assumption is that the teacher's role is to ascertain the 'ability' of the child, (as Brian Simon points out in his article in the last issue of *Forum*, this concept of ability is never defined though widely used) and provide work accordingly. This rests on the further assumption that the teacher, and not the child, is in the best position to make this match: the teacher determines the student's 'condition' and then prescribes the necessary 'remedy'. This view of the teaching/learning process is the opposite of that which views learning as a process of reconstruction of knowledge as a result of cumulative experience. Apart from resting upon dubious and narrow notions of ability (as determined by so-called 'objective' tests) it denies the ability of people of all ages to interpret their experience in a way that is appropriate to their particular interests, state of knowledge and skill. Once we recognise this ability it follows that it is the student who is in the best position to make the match between condition and remedy. As long as he works within a varied and stimulating environment, and one which offers fertility to his own ideas – not an easy matter to provide – he is likely to attend to that which is most appropriate to his own development.

But this is not to say that the teacher's role is solely that of providing such an environment. Indeed, the way in which the teacher collaborates with the student in the execution of his plans is of fundamental importance. It involves helping him to clarify his ideas and offering guidance, and even instruction and criticism where appropriate. But this help is given in such a way that the control of the work – its objectives and method – rests firmly in the hands of the student.

This point is completely ignored in the Primary Education report, where teaching methods are ranged along a spectrum from 'didactic' to 'exploratory' (an 'exploratory' approach being defined as one in which the broad objectives of the work were discussed with the

children but where they were *put* in a position of finding their own solutions. Para 3.19). It is assumed that where children are working in an exploratory way, guidance and instruction will be lacking, a state of affairs which 'could lead to aimless activity and lack of progress'. (para 3.21). The possibility that the teacher actually collaborates with the child in his explorations is overlooked. One can only assume that, to the HMIs, the teacher is unlikely to join with the child in his freely chosen explorations (not, incidentally, ones in which the child has been 'put' by the teacher) since it is assumed that the teacher knows it all from the start anyway. The whole language of the report implies a model of the teacher who knows all the relevant subject matter and what is best for the children and for the child who receives his treatment. Such a teacher 'puts' children into 'exploratory situations' where he deems it to be 'appropriate'.

In order to illustrate my claim that children are able to plan their own work and develop the strategies which are most appropriate to themselves I shall describe an activity that took place in a primary school classroom of nine to eleven year olds. This description is taken straight out of the notes I made on the evening after the activity occurred.

*'It started yesterday morning, when David arrived at school and said to me very excitedly, "Can you make a candle burn under water?". He gave me little time to think before expanding his ideas. He explained how a candle could be submerged within a weighted container so that the candle and container would sink. Then an air pipe would be attached through a hole in the container so that the candle could continue to burn. Diagram 1, which we drew together, explains his idea.*

*David soon found the necessary materials for his experiment: rubber tube, candle, plasticine and two plastic cylindrical containers.*

*There then followed a series of experiments as David attempted to overcome the problems which arose, and to exploit the new possibilities.*



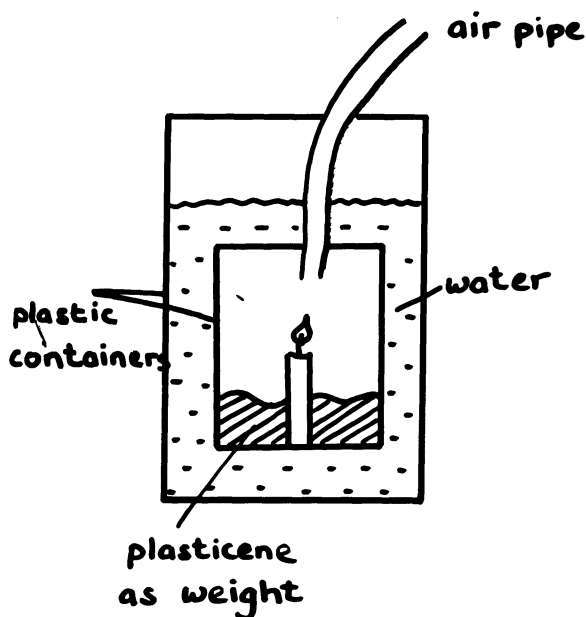


Diagram 1

### Experiment 1

The first problem was to see if the candle would stay alight once it was sealed – with air pipe attached – into the inner container. We lit the candle, but when he placed the lid on the container it went out.

David explained this result as follows: when the candle burns it gives off carbon dioxide. This carbon dioxide is emitted from the tube thus preventing more air from entering. His answer: we need two tubes, one to let out the carbon dioxide and another to let in more air. (This reasoning was purely his own, as were all the explanations involved in the work. While he did at times ask for points of technical detail, he arrived at his own conclusions. This result had not, however, been predicted by him though one or two other children in the class had said it would not work because the candle would not get enough air.)

David thus prepared his materials for his second experiment.

### Experiment 2

One tube would let  $\text{CO}_2$  out, the other air in (see Diagram 2). David did not explain which would do which.

Again, the candle was extinguished when the lid was closed.

David was at first puzzled by this. I started a discussion between us on how hot air rises (David was very familiar with this idea). I further helped him by suggesting that it might help if one of the tubes was inserted near the bottom of the container.

Immediately David saw that this would help. He went on to explain how it would help – an explanation which he repeated to me at the conclusion of his experimenting. David said that it would now be like a pump, with air being sucked in through the bottom hole, while carbon dioxide was pumped out of the top hole. Thus David assembled his third experiment, borrowing my drill again to make the necessary holes.

### Experiment 3

The candle was lit, and the top of the container placed.

Again, the candle went out.

David puzzled over this, then suggested that not enough air was getting in. The tubes were too long and constricting. It would be better, at this stage, to remove the tubes altogether to see if it would then work.

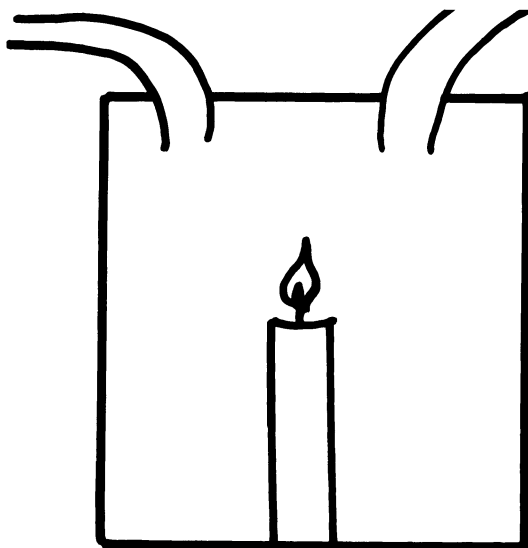


Diagram 2

#### Experiment 4

*This time – at last – the candle remained alight. But David's excitement was somewhat dampened when he saw what else was happening. The lid around the hole above the candle was melting, thus expanding the hole. The hole quickly grew until soon there was little lid left.*

*David said that the problem now was that the plastic lid was too near to the candle flame. We needed a larger container so that the flame would not melt the lid around the hole. I suggested a plastic bucket upturned. (A dispensable paint container about 25cm high.) David drilled a hole at the top for the 'carbon dioxide' to escape and another near the rim for the air to enter. I suggested there might be a problem of air entering between the rim of the upturned bucket and the table top. We placed the bucket on a large plate of water to effect a seal around the rim (my idea – I think).*

#### Experiment 5

*Much to David's surprise, the bucket around the top hole again began to melt as the candle burnt. He had not realised that the candle's heat would be so intense at this distance.*

*David said, after some thought, that this time he should use a different material that would not melt. He suggested – and found in a junk box – an old tinned food can with the lid removed. Holes were drilled in this in the same manner as before.*

#### Experiment 6

*This time the candle was snuffed out when the tin was placed over it. David thought that this was because the top of the tin was too close to the flame and it thus acted as a snuffer to the candle. He suggested how this problem could be overcome by using two tins fitted together – one of them having the bottom as well as the top removed – so as to form one long tin. I gave David considerable help in fitting two tins together in this way, by crimping in one of the tins so that it fitted into the other. A hole was drilled in the top of the upper tin, but not at the bottom of the lower one (this being, I think, an oversight on David's part).*

#### Experiment 7

*In spite of there being no hole at the bottom, the candle stayed alight. David explained his 'success' here by saying that some air was getting in at the join of the two tins, thus allowing the circulation. I'm sure this explanation is correct.*

*By now, David had put aside his original idea of getting a candle to burn under water. He was more interested in exploring the possibilities of a candle burning within a container. While he was satisfied with his last experiment in most respects, he was unhappy about the fact that the light of the candle could not be observed through the tin. In this respect plastic was a more satisfactory material. He now saw his aim as that of making a lamp – a candle burning within a translucent container.*

*Thus, returning to the idea of using plastic, David described his next development. If we were to place an upturned tin on top of a plastic tube of a similar diameter, the plastic tube would let through the light, while the tin on top would prevent melting. With this plan in mind we searched the school for an appropriate tube and eventually found a yellow translucent plastic tube 30cm high; 8cm diameter. David drilled four holes near the base of this (he reckoned that one might not let in sufficient air). On top of this was placed a tin with a hole drilled in the top (Diagram 3).*

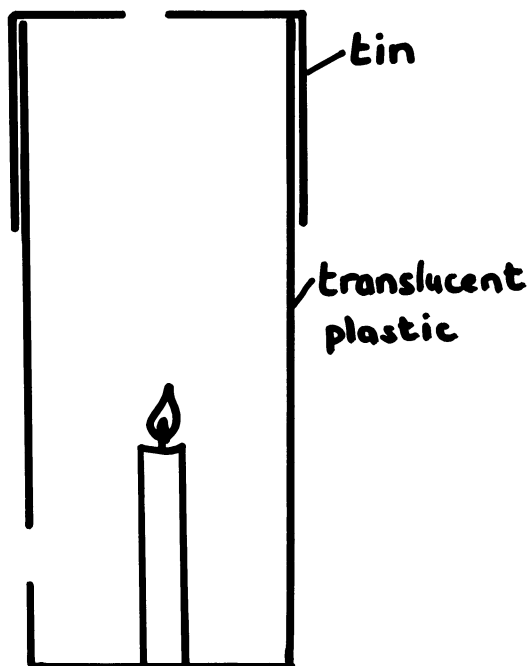


Diagram 3

### Experiment 8

*This worked beautifully, giving a warm yellow glow. David delighted in demonstrating how the light could be derived by partially covering the inlet holes, or extinguished by completely blocking them.*

*Several children came to admire David's lamp. We then took it off to a dark room where David again showed us how he could dim or extinguish the light.*

*David had invented the hurricane lamp. Unfortunately, there was not sufficient wind outside to give it a good test. Perhaps he will try that later.*

*But after David had allowed the lamp to burn for some 15 minutes, he extinguished it and removed the tin lid. Beneath this the yellow plastic had become very soft and was beginning to melt.*

*David took this opportunity of exploring the possibilities of a partly melted tube by moulding it with his hands into some abstract sculpture.*

*Later in the day this idea was taken up by several children who used bits of candle and tubing to produce distorted, gnarled shapes. They also explored the sooty deposit from the candle flame – scratching it, writing on it, making fingerprints from it and so on.*

*But David, after a brief diversion on this, wanted to return to his lamp. It was not quite right yet. The top of the sides of the tube must also be of tin so that they would not melt. However the part of the tube adjacent to the flame could be of plastic since this part had not begun to melt and indeed did not even get hot.*

*David puzzled over exactly how this might be done. I contributed little except to remark that the only part of the lamp that need really be translucent would be that part near the candle flame. I suggested that we just look through boxes of junk materials. Perhaps we would spot something that would give us an idea as to how to construct the next lamp.*

*As luck would have it, after very little searching, David found a sheet of clear acetate (the kind used to cover spot-lights, but not coloured). He soon decided how this could be used, rolled into a cylindrical shape and inserted between the two tins of Experiment 7 and a further tin. Thus the lamp tube now consisted of a tin cylinder at the base, then a band of acetate sheeting and above this two further cylinders, the top one having a hole drilled into its 'lid'.*

*David raised the candle on a platform so that the flame stood adjacent to the clear acetate sheeting. No 'inlet' holes were made, David explaining that as con-*

*structed there were sufficient gaps between the acetate sheet and the tins to allow air to enter.*

### Experiment 9

*The lamp worked perfectly. Though now David had no method of controlling the light by blocking air inlets, the light cast by the lamp was much brighter.*

*And here this stage of the experimenting ended. David went on to investigate melting plastic and melting candle wax and wax crayons, making his own candles out of crayons and string. The lamp was taken apart so that he could use his candle for this new departure in his experimenting. The lamp itself – as a thing – meant little to David. He was not concerned to keep it. He was even prepared to melt his only piece of acetate sheeting 'to see what would happen'. The fact that this would ruin his lamp was of little concern to him. He had done what he wanted to – though not exactly what he set out to do – and was well satisfied with his experiments. The product of his labours – the lamp – was of trivial significance compared to the process which he had gone through and which he intended to continue, albeit on a slightly different track.*

*Later today, however, after David had spent some time on these other experiments, he did return to me to say that he preferred plastic to tin as a material and that he was now going to work on a revised version of the lamp which would be made from two clay cylinders and a coloured plastic tube. He liked the coloured light this gave even if it was less intense. He is now waiting for his clay tubes (made by forming clay around a plastic tube and then withdrawing it while still wet) to dry.*

*I have not time here to analyse the above in great detail. Indeed, it seems to me that this work 'speaks for itself'. However, the following points, briefly:*

- 1. Clearly David is working as a scientist. Hypotheses are made, tested, adjusted, clarified, re-tested and so forth. Each experiment not only supports or contradicts a hypothesis but also refines it by bringing into focus its limitations in application.*
- 2. This is primarily science rather than technology. While David did, after all, return to his lamp and work on revising it, his original aim and also his first working lamp (Expt.9) were dropped when further 'scientific' concerns presented themselves.*
- 3. While the work was exploratory throughout, it was highly disciplined in the sense that David was not prepared to be defeated by problems which arose.*

*He struggled with each problem and changed direction not as a result of being defeated by a problem, but rather after seeing further possibilities emerge.*

4. *While David's approach was scientific and disciplined it was not limited by narrowness of vision. He approached his problems creatively and did not become obsessed by specific scientific considerations. His work thus ranged over a number of quite different scientific aspects – combustion, circulation, melting of plastics, light, etc.*

*No doubt much more could be said of all this.'*

To return to the discussion of the matching of work to 'ability', some further points could be made.

From the notes one gains a fairly clear picture of David's scientific style and understanding. But to describe this in terms of a specific quantifiable 'level of ability' within the field would be misleading. The work was not remarkable so much for demonstrating David's scientific knowledge or ability to solve problems set for him, but rather to show his ability to see problems and tackle them in an appropriate way and organise his work accordingly.

To say that his work here matched his ability would be meaningless. It is a natural outcome of the fact that he was in control of what he was doing throughout the work that he interpreted his experiences in an appropriate manner. So long as this control was exercised by him, so that he 'knew what he was up to', the question of matching is no longer relevant. Only when the teacher takes this control out of the child's hands does the question arise of his (the teacher's) ability to make the correct match.

Furthermore, the processes that David went through in the course of this work could not possibly have been foreseen. No series of experiments designed by the teacher (let alone a distant commercial enterprise) could so successfully have held David's interest and imagination, nor have been more appropriate to extending his scientific knowledge.

I have chosen to describe an example of scientific work because it is within the field of science and maths that the assumptions which I am refuting are most readily accepted. In artistic and language activity it is now more commonly believed that students will naturally work in a way more appropriate to their interest, knowledge and skill. However, science and maths are

often perceived (I believe wrongly) to be particularly 'hierarchical' areas of the curriculum in which the acquisition of one element of knowledge or skill is seen as being dependent upon the student having already grasped 'more elementary' ideas.<sup>1</sup> From this it is concluded that, since the teacher is in the best position to ascertain at what point in the 'hierarchy' the student has arrived, he can thus plan his future activity accordingly.

In conclusion, it would seem that we must take seriously the activity of children and with due consideration to their intentions and interpretations subject it to the respectful analysis that it deserves. Only then will the misconceived ideology based upon 'ability levels', hierarchies of knowledge and skill, objective testing and 'matched work programmes' evaporate. Until the HMI's take this point they are unlikely to come up with a report which will be helpful to teachers.

- 1 For a discussion of 'elementary' ideas and the problems surrounding them in science teaching, see David Hawkins' paper entitled 'Critical Barriers to Science Learning', an edited version of which appears in *Outlook – Mountain View Center for Environmental Education* – Autumn, 1978.

## The next FORUM

Our September number, which will come out in a new format, will focus on testing and assessment. There will be a critical look at the A.P.U. and its tests, at local authority mass testing, and at the alternative strategy of school and teacher self-assessment. Contributors include Ed Stones, Harvey Goldstein, John Watts, Helen Simons and others. Make sure of your copy now.

# Teaching Mixed Ability Work in the Fourth and Fifth Years

Pat Jones

Pat Jones began his teaching career in 1967 (after being sacked by Securicor) in a streamed grammar school and moved to his present school, Hreod Burna school, Swindon, in 1969. He has been head of the English Department there since 1973.

As an English teacher I am concerned, above all, with Language Development. As a *teacher*, the social development of my students must, too, have a very high priority. There is no doubt in my mind that the experience of being in a mixed ability class and of working and co-operating with the wide social and intellectual spectrum it contains, fosters best the personal and social growth of the individual student. I am concerned with breaking down barriers between individuals; streaming or setting inevitably erects barriers, however much both teachers and, more sadly, students come to rationalize such a system.

But how does mixed ability work cater for the more intellectual side – the language development of the child – my main concern as a specialist teacher of English? (Actually I don't believe you can divorce social and linguistic development – but that's another topic.) Can the individual student develop his powers of language, increase his 'way with words' as fully in a mixed ability class, as he can in a streamed class? More specifically, can he be trained to jump as high over those hurdles in front of him at the end of the fifth year?

The pattern of mixed ability work in most schools using this kind of grouping would suggest that most teachers (or is it perhaps most headmasters?) would say 'no' to my last two questions. Generally, secondary schools either allowed mixed ability work in the first year, or allow it to continue until the end of the third year, and set in the final two years. The former method is perhaps used as a kind of 'bridge' between primary and secondary schools to allow teachers to get to know students more fully before making final assessments of their suitability for subjects – or to allow them to set more accurately. The latter method implies a rather greater faith in mixed ability work but a distrust of its suitability for preparing students for examination at 16 plus.

At my school (14-18 Senior High School) we take great care to ensure that each of our sixteen classes coming to us in the Fourth Year from rigidly streamed feeder schools is a class of equally mixed ability – and

by that I mean that it is a microcosm of the school community, containing an exact cross-section of the intellectual and social make-up of the school. Classes are also tutor groups and are taught together for English, Games, Careers and Education in Personal Relationships, throughout their time at school, and for Maths for the first two terms. We are not alone in continuing mixed ability work in the Fourth and Fifth Years, but there are not many schools with a genuinely comprehensive intake who choose to work this way. How, then, can we do it, and still achieve very acceptable examination results? (Roughly average 'O' Level results compared to the national average, and exceptionally good CSE results.) The answers in the end are very simple – though not necessarily attractive for all teachers.

1. We work hard. There is extra work to prepare, for a more flexible teaching situation, though point (2) relieves this somewhat. A wide variety of resources needs to be brought into the classroom to cope with the variety of demands.

2. We share resources and use them flexibly. Gone are the days of borrowing a set of 'Animal Farm' for your half term's class reader. Books, duplicated sheets, audio-visual resources are all centrally and immediately available, linked to a Resource Handbook which is annually updated for each teacher. A major resource developed over the years has been the department lessons bank, crammed with well-trying ideas for sequences of work, sorted out into categories, and cross-referenced with the Resource Handbook. A lot of work has gone into this, but it has been a huge work-saver in the long run.

3. We have a suite of specialist English rooms used solely by English teachers, and each one being a base-room for two teachers. This facility is important for all kinds of English teaching but is crucially important for mixed ability work, where resources need to be instantly available in the room and are too numerous and complex to be carried about in cardboard boxes by peripatetic teachers.

4. We work as a team, both in preparing resources, organizing day to day administration, making large and small decisions, and, most importantly, in the classroom. Our teacher-student ratio is about 1:23; we choose to operate with groups of five teachers working with blocks of 115 students. The staple diet of teaching in these blocks is the mixed ability tutor group of about 27 students. We have four of these in each block, the 'fifth' teacher being used exclusively for remedial withdrawal work in the fourth year (for the half dozen or so students with a reading age of below 9.5), and for offering a variety of options catering for the needs of all students in the fifth year. Current examples of such options, usually very fully attended, have been a three week course on *Macbeth* for 'O' Level Literature students, a punctuation course and a course called 'Poetry for Everyone'. The block system also allows us to undertake two or three major team-teaching projects a year, when the normal class structure is abandoned in favour of a week or a fortnight of more flexible groupings.

5. We have developed examinations which, as far as possible are a natural end-product of our teaching rather than an artificial barrier which dominates the syllabus. Exams can tyrannize over the timetable and the syllabus and it is this which is the main cause of so many schools abandoning mixed ability work after the third year. If an examination contains too many elements that require specialist preparation work unsuitable for the mixed ability classroom, then it is difficult to avoid setting in the Fourth and Fifth Years. Examples of such elements are formal precis and grammar work in the 'O' Level syllabus (or even in the CSE Mode I syllabus). The answer is to create examinations which (a) closely reflect your aims and (b) avoid, *as far as possible*, elements that require specialist preparation.

I put (a) first, advisedly, because I feel it would be wrong to water down a syllabus so that elements that you feel are important to stretch students' language capabilities are omitted. Our 'O' Level syllabus does contain two difficult formal comprehensions and an essay which demands fairly sophisticated discursive ability. It would be possible to develop worksheets to cover preparation for these elements but I feel that this is a formal, lonely and lifeless way of tackling them. We use our fifth teacher to withdraw 'O' Level candidates for a short, intensive burst of specialist prepar-

ation work. This is all that we feel is required, for the 'way with words', the fluency, the creativity is, we hope, fostered in the normal teaching situation. If 'O' Level cannot, in the main, be prepared for by undertaking important, enjoyable, but in a sense everyday classroom activities, then it is 'O' Level that needs to be changed not the classroom activities.

For each of the CSE examinations in Language and Literature our students simply present a folder of ten varied pieces of their work, at least three of which must have been done in 'test' conditions. All work is re-annotated to explain the circumstances in which it was done, and what help may have been given. The folder is then put through a rigorous assessment process, firstly by the class teacher, secondly by the school moderator (who adds his own impression mark) thirdly by the consortium of schools with which we operate the scheme, and fourthly at group moderation with a variety of schools from the area. Standards are very high and we have never had problems getting our suggested grades accepted. More often than not we have come away with better final grades than we expected. The vast majority of our students remaining in the third term of the fifth year (90 per cent of them) can cope with such an exam and very few fail. For those who can't cope, we have developed our own Leaving Certificate in English, similar to our CSE exam but with a compulsory element of very practical work such as letter-writing, instruction-giving, form filling.

We operate an 'O' Level Literature scheme as well as a CSE Literature scheme and so it is important to have a very wide and flexible list of suitable books on both syllabuses. For the CSE scheme we can use whatever books we feel are suitable; for the 'O' Level Literature scheme there is a list of about 60 books and anthologies to be used for the 60 per cent coursework element, two of which (currently *Macbeth* and *Animal Farm*) are nominated for the 40 per cent formal exam element. You are certainly limited as to your choice of book texts to read with the whole class in mixed ability work, and we do not do this more than once a term for a major book, but certain texts (e.g. *Of Mice and Men*; *Animal Farm*; *A Taste of Honey*; *To Kill a Mocking Bird*) can transcend most barriers and it is very easy to find poems and short stories that make a strong impact on most students, and which are both sufficiently demanding for 'O' Level work and accessible enough for CSE work. (Examples: the collections – *Short*

*Stories of Our Time, 20th Century Short Stories* and Barstow's *The Human Element*; Seamus Heaney's *Poetry* and *Poetry of the First World War*.) Again, I know that some schools not streaming in the Fourth and Fifth Year develop individual work programmes for students to follow and minimize time in which the class is working together; but we feel that the 'shared' moments are the really important ones and that they should be the basis of the work of the class, the springboard for the more individual work to follow. In my philosophy, students need to be given every chance to work and learn together, and much is lost by sophisticated self-operating programmes of individual work, which can serve to isolate students, relegating the teacher to the role of technician and/or assessor.

As I said before we get very acceptable exam results, but I must stress that we could not do so without having developed examination schemes which tend to reflect our teaching rather than deflect it. The proposed reorganization of 16+ examinations to create a unified examination provides an excellent chance to overcome examination coordination problems and should therefore provide a real boost for mixed ability work in the Fourth and Fifth Year.

6. Besides having a majority of the Department in favour of mixed ability work (surely an essential ingredient of success!), we have the support of our Headmaster – very important for wheedling specialist rooms and teachers, extra filing cabinets for shared resources, and the odd can of paint. An obstructive Headmaster could tip the balance of success in mixed ability work. A tolerant, humane and enlightened Headmaster such as ours is a huge bonus.

7. As far as possible we have explained our methods and tried to get support for them both in the school and local community. This can be done by: handouts before they come to us; by discussing the philosophy behind mixed ability work with pupils when they come to us; by involving the Sixth Form in teaching as auxiliary helpers (we have an enthusiastic team of a dozen now – who also attend lunchtime talks and discussion groups on educational topics); by involving parents in the classroom and by holding regular open evenings on English teaching in general, and mixed ability work in particular. Remember that most parents finished their education over 20 years ago. How *can* we expect them to be able to accept the radical change in methods and approaches implied in mixed ability work

without some explanation. If parents and pupils are unsure about your work, even hostile to it, then the job becomes more difficult.

These are, I believe the reasons why mixed ability work is successful in my school – and not just successful in our eyes, for a recent evaluation report by LEA Advisers came to the same conclusion.

I was asked to keep this article as practical as possible and perhaps it has all been rather theoretical up to now. I still have not really shown you what happens in the classroom, but the nearest I can get to that is to tell you what happened last week.

## Fourth Year

### Instructions (*A two week sequence*)

#### Lesson (1)

Discussed problems of ambiguity of language, illustrating with the misinterpreted(?) command 'Let them have it, Chris' which caused Derek Bentley to hang back in the fifties. Gave them a series of sentences which had at least two meanings and asked them, in groups to sort them out and rewrite unambiguously.

Went on to get them to try instructing me to take a packet of polos out of my pocket and give them one, teacher going wrong if possible. Half a packet of Polos later I got them to write, in groups of two or three instructions for threading a needle. Tried out several of them.

#### Lesson (2) and (3)

Issued shapes, one per group and they had to write instructions for drawing the shape. These were tried out in public on the overhead projector with an intelligent artist obeying the instructions. We carefully analysed anything that went wrong.

Went on to introduce more complex tasks to be written up, in groups, in rough, tested out by another group, polished up and then handed to me, in best. Most had to do the best copies for homework.

Instructions were:

1 Change a nappy (dolls/nappies/pins provided)

- 2 To change a fuse on a plug (plugs/screwdrivers/spare fuses provided)
- 3 For a four-year old to phone for an ambulance as you lay crippled in the bath or something (three telephones provided)
- 4 To get from our English room to a secret destination in the school, marked by a special message (not popular with Deputy Head, this one).

The Groups worked very purposefully and were, above all, looking at language in a very practical way.

#### Next week

I shall offer a series of more ambitious projects to be done individually (e.g. complete guide for motorist/rail traveller/pedestrian to get to our school – instructions for a day's self catering for an incompetent male. Complete guide to your favourite sport or hobby . . . ).

## Fifth Year

**Money** (*The last week of a three-week sequence which goes: Job Application letters, interviews; then money – they get the job, of course!*)

#### Lesson (1)

A list of 20 jobs put up on the OHP – they had to guess at the average basic salary of each and link together jobs which deserve to be paid roughly the same. After 10-15 minutes of them guessing away alone or in groups the answers were slowly revealed. Intense discussion resulted, teacher losing track and nearly losing control. Why do apprentice hairdressers and nurses get such bad pay? Was £80-£100 a week enough for a miner? Would you ever strike for more money? Why don't schoolkids ever strike? (it is only Swindon here). What's this communism anyway? Does a Headmaster deserve £10,000? How is his job similar to the Manager of a large store who gets about the same? Phew?

#### Lesson (2)

Having revealed my salary last lesson I presented a step-by-step analysis of how it was spent. I'd intended them to do the same, but was suddenly sidetracked (wrong

word 'branched off' – much better – more organic) into discussing a dispute one lad had got into about his paper round. Sudden chance to do an improvisation, reenacting the scene (I was the manager). Other members of the class got involved as shop girls, members of the public (don't worry – this was a good group and I bet a third of them were looking out of the window anyway). I was pleased with this lesson as it really surprised me.

#### Lesson (3)

A banda of options for writing issued, hastily added to after change of last lesson. Included *creative ideas*:

'I was walking along, hands stuffed deep into my pocket, eyes scavenging the gutter when suddenly I saw this fat wage packet. Tearing it open, I was confronted by the bluish glint of fivers'

*ideas for personal writing:*

'You win £10,000. Explain exactly how you would spend it on yourself and your family or on . . . '

*discursive writing ideas:*

('O' Level Language students strongly urged to try one and treat as a timed essay. About half of them did)

'Carefully assess the various factors that should be taken into consideration when deciding how much a job is worth'

and titles from yesterday

"The Strike"

"The Paperboy's revolt"

These were discussed, started in the lesson and finished for homework.

I believe that during these two sequences described above, the vast majority of the classes were working with purpose and enthusiasm, often with others. I felt, too, that at no point was the work too demanding for the weaker students, or boring or easy for the brighter ones. Each was able, in the final sessions, to produce something which tested capabilities and extended powers of language. I shall mark the work using comments, not marks or grades (no – they *never* ask for them), and I shall have their capabilities firmly in mind when I make my comments. I felt that this week was a goodish one.



# A Study of Group Work

**Sarah Tann**

Having taught for three years in a multiracial school, Sarah Tann joined the ORACLE project at the University of Leicester (Observational Research and Classroom Learning Evaluation). While working as an observer in junior and high school classrooms she is also engaged on her own research on groupwork.

Evidence concerning the forms of grouping and group work used in unstreamed classrooms has been brought to light in two recent HMI Reports. What needs to be emphasised is the difference between the practice of 'grouping' and of 'group work'. The former is a system of arranging pupils into smaller than class size groups (often four pupils around a table working individually) while the latter involves a specific collaborative learning situation. Both have sometimes been proposed for similar reasons, as for example in the Plowden Report, for allowing more efficient use of teacher time. But the two do not necessarily occur together and both can be used in many different combinations and for many different purposes. These differences are important and need closer examination. One cannot assume that children sitting in a group are working as a group, nor that by setting a group work activity children are automatically deriving the educational and social benefits that such an exercise can develop.

Researchers such as Abercrombie, Barnes and Tough have spelled out what they believe to be the value of

collaborative group work, in particular when used for problem-solving tasks.<sup>1</sup> First, it provides an opportunity for the children to take the initiative and be responsible for the task process. It thus allows children to develop intellectual independence through peer interaction, by giving a chance for them to take different roles from those normal in classroom settings. Secondly, it provides an opportunity for the members of groups to develop thinking skills, in particular of rational analysis such as observation, interpretation, reasoning and evaluating. One of the greatest values of group discussions is the increased awareness of one's own and others' assumptions through challenging and critically examining members' contributions. Hopefully such awareness will be followed by greater tolerance and reflection. Thirdly, collaborative group work allows the pupils to go at their own pace (especially important in unstreamed classes), to participate more fully in the learning process, to co-operate in assisting each other towards achieving a common learning objective and thus to develop the skill of directing the collaborative

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*Continued from page 90*

In their recent report, the Inspectorate claimed that much mixed ability work was not done well. That is probably true. I believe it is also true that much English teaching generally is not done well. The point I have tried to make in this article is that given certain minimum conditions: a vaguely supportive Headmaster; a keen Head of Department; some specialist rooms; a few enthusiastic teachers working quite hard together; and examinations at the end of it all which are not ludicrously inappropriate to your aims, mixed ability work in the Fourth and Fifth Years can prove to be

not only workable, but very successful academically as well as socially.

Given the support of the Headmaster and the commitment of the Head of Department, the right conditions for success could be built up in most schools within three years. In my view, it is the only way forward.

Comments/queries/even visits to:

*Mr Pat Jones, Hreod Burna School, Swindon, Wilts.*

group process in a relaxed atmosphere. Peer interaction and a relaxed group atmosphere are held to be preconditions for the exercise and development of intellectual independence, thinking skills and collaborative learning.

While many teachers may be sympathetic to these outcomes of group work, it would seem from the limited use of this learning mode that many have reservations about employing it. One problem is the difficulty of evaluating group work. This is because much of its value lies in the process of learning and is long term and less tangible to assess. Another problem derives from the fact that little is known about what happens in group discussion in pupil-led small groups. In each learning situation specific skills are required which need to be identified and if possible practised. This is certainly true of learning to learn in a group. In such a context the participants have to be able to handle the task as well as handle the group. The presence of an audience requires both cognitive and social skills; members need to articulate their meaning clearly (as well as be able to interpret, substantiate and evaluate) and to take turns to listen and monitor the group's progress.

## The Research

In the research in which I have been engaged a small scale project was set up to examine the interaction processes during 'group work' and the effects of different 'grouping policies' on those processes. Two classes in a junior school and two classes in a high school agreed to participate. Group discussions were recorded and analysed using a detailed category system devised for the project. Further data on the pupils were collected by means of Achievement Tests and Personality Questionnaires.

The main purpose of the analysis was to try to identify successful dialogue strategies and to highlight any difficulties deriving from the group situation so as to be able to find out more about how pupils behave, what they gain and which pupils benefit most. This, in turn, it was hoped, would throw light on ways in which the learning experience in small groups could be improved.

It must be remembered that 'success' was seen in terms of the educational values outlined above. Thus a successful group was one which solved the problem as they defined it, and in a way that was felt to be acceptable to that group. The success depended on the quality of the solution and on the amount of group satisfaction, and thus involved both the product and the process and embraced both the social and cognitive dimensions. Although an 'ideal solution' was not used as a yardstick of success, a model of an 'ideal discussion' was developed. This was based on experience gained from analysing the 96 group discussions. Each discussion lasted approximately 20 minutes and took place in a nearby room away from the general classroom bustle, in order to obtain a better quality recording. The series of four tasks given to the groups were unrelated to class work for control reasons. The type of tasks could be loosely described as belonging to the curriculum area of 'Creative English' and demanded both reasoning and imagining skills in particular.

## Meeting the task demands

There were three main stages in a successful discussion. The first was an orientation stage in which the problem was identified, an overall interpretation of the task made and the main issues focused on. It was the omission or foreshortening of this stage in the children's enthusiastic rush to 'solve the problem' that led to repetitions, contradictions and disputes later in the discussion. The particular strategies used at this stage were reporting/interpreting and directing/focusing. Also during this orientation stage the initial roles of the members were established.

The second stage was a 'developmental' one, in which ideas were generated, challenged, justified by reasons or evidence and often refined or modified. Thus alternative solutions were suggested and submitted to rational analysis so as to provide a sound basis for evaluation. This stage was the most variable both in length and in quality. Sometimes suggestions were quickly recognised by the group as 'good ideas' and instantly adopted. Sometimes they were quickly adopted for lack of alternatives. Both such consensus groups

scored high on accepting strategies and were very brief. Conversely, some developmental stages were lengthy because so many ideas were offered, opposed and altered till acceptable. On the other hand some lengthy developmental stages were characterized by many ideas being initiated but few followed up by questioning, clarifying, elaborating or refining. Such groups scored high on initiating but were unable to conclude, as the basis for assessing the ideas was lacking. During this stage it was very important to provide clear reasons and to be able to substantiate with evidence so as to enable interim evaluations to be made. It became evident that one of the most crucial strategies which furthered reasoning and evaluating was 'challenging'. It was the ability to question, probe and critically examine ideas that were the most positive strategies at this stage. These skills are ones which in many classrooms the children have little opportunity to practice, but which need to be encouraged if they are to derive maximum benefit from the group situation.

The final 'concluding' stage was one which showed an increased proportion of evaluating and directing strategies such as summarizing and consensus-testing. This stage resulted in more accepting than initiating and challenging.

Having noted the main strategies in a 'good' discussion, and their absence in less successful ones, these formed the basis of the interaction categories used in analysis.

Within the group context two further skills were important to the success of the discussion and were common to all stages: listening and managing disputes. It became clear that some children found it hard to listen to others' ideas, and to assimilate and assess them when the ideas interrupted their own train of thought. Thus some groups talked at each other and discussions involved a lot of repetition and often competition in deciding which ideas belonged to whom. Thus personalities and group status were at stake rather than the task problem.

Disputes within a group and ways of managing them were a further area of interest. This was also an area in which sex differences were conspicuous. In Boys' groups the members seemed more willing to take risks . . . to offer ideas which might be rejected or ridiculed. Yet this was done in an atmosphere which did not often involve the loss of face or ill feeling. The boys generally threw themselves into the tasks with enthu-

siasm and thought the novelty a 'good laugh'. The girls however reacted very differently. The discussion was usually much more consensus orientated. The members were wary about the novel situation and felt uneasy about what was expected of them. The girls were more likely to accept ideas and let them go unchallenged. When issues were raised they were often left unresolved and were avoided. This sometimes led to a further characteristic, 'back-tracking', where the issue was re-introduced to the group later often after other contributions had been made which helped to decide the original area of dispute. 'Back-tracking' was distinct from the repetitions due to members not listening. Another feature of the girls' groups was the seeming acceptance of a contribution which was then in the same breath challenged. The girls were less likely to reject outright. They preferred to sugar the pill. The boys however didn't bother with such niceties.

## Meeting the group demands

There was another quite different difficulty which emerged in some groups. That was the reaction to individual members who might be one of four types: the silent child, the slow child, the bright and the bossy. A variety of responses were noted. The slow child, often also silent if a girl, tended to opt out despite invitations, not to say desperate appeals, to participate in the quieter, more conformist, consensus-orientated, self-conscious girls' groups. In the boys' groups slower members joined in and were helped along to a considerable extent. Silent members, however, were generally ignored in the boys' groups amid the hubbub of voices.

The small group situation made a considerable difference to some members' behaviour. This was particularly so of low-achievers who found writing a struggle and had difficulty in expressing themselves orally. In class such children rarely have the confidence to speak out and are rarely given the floor long enough for their ideas to be conveyed. For this kind of child, the cosy atmosphere of the small group was very important.

Conversely some found the group context very inhibiting. This was the case with children who preferred

to work alone either because they could get on faster and do things their way, or because they were anxious and preferred to remain anonymous in the wider classroom crowd.

Amongst the girls there was a tendency for the slow and the silent child to be synonymous. So too was the bright child often the bossy one. In the girls' groups there was usually a clear leader who was also the one accepted by the others as being the cleverest as judged by the members' perceptions of the individual's achievements in formal school work. Amongst the boys leadership was less clearly defined and the groups appeared more democratic. However, the 'brightest' was not always the 'best' in the group context. Often because the brightest child accepted the position granted by the other members, such a child expected its suggestions to be accepted without challenge. This frequently led to brief, blunt contributions which were imprecise, unreasoned and substantiated by 'Tis so'. Very often another member would unobtrusively assume the tasks which one might associate with being leader, of monitoring the group progress, focusing on issues to be discussed and directing the task process. Such children were not recognised as leaders, as the role they actually played was not expected of them on the basis of school work. Thus group work for some children provided a valuable opportunity for different skills to be practised and different roles to be played.

In considering the ways in which the children responded to the group situation and to the tasks there was a considerable difference relating to sex and achievement thus indicating the importance of the composition of groups when considering grouping policies. Apart from the already mentioned consensus orientation of the girls the most marked response was the high performance of low achieving boys and the equal participation rates of the members in unstreamed groups. However, differences of sex and achievement became more marked amongst the older pupils. In particular, ability was more closely related to behaviour. This is possibly because of the mode of teaching prevalent in each of the schools. In the high schools where the children were more often addressed as a class, achievement differences were made more public and children responded to the expectations and demands made of them. Conversely, in the junior school where work was strongly individualised achievement differences were less well noticed.

Low-achieving boys' groups tackled each task very thoroughly and were often more careful than the other groups to examine suggestions and to give more reasons and provide more evidence. They also used their own experience in support for their ideas, as well as information gained from other out of school sources such as evening TV programmes. In general boys seemed to refer to TV more often than the girls. Whether this was because they watched more, remembered more or used more, is not known. Nevertheless, it was very interesting to see how much such low achieving children learnt from that visual medium and how well they responded to the oral means of sharing and showing their knowledge in the group situation.

These two characteristics of groups of low achieving boys – their careful and reasoned approach and their use of information sources based outside the school – were also conspicuous amongst individual low achieving boys in groups where the range of achievement was considerable. A particular feature of such groups was the equal rates of participation from each member despite the achievement range. Low achieving members were rarely dominated by their higher achieving peers and their contributions, whether adding explanations or evidence, modifying others' utterances or challenging to evoke further clarification, all played a positive part in the discussions.

However, in the high schools, low achievers' scores were more likely to relate to low level performance in the groups. This was particularly so amongst the girls, who remained silent despite appeals to participate. The boys, instead, fooled around and made a show of not trying and therefore of not failing.

During the group work sessions the children seemed to enjoy the activities and being allowed to do things together instead of having to work individually. However, at the end of the project the children were asked if they had liked group work and what they thought they had learnt from it. The answers are very revealing. Some admitted that they liked working in groups but that they worked better on their own, as a group of friends was often distracting. Some disliked other members copying them. Others disliked some of the members and also the ensuing arguments. A few liked working in a group as they found it easier because 'the others did the work for you'. One enjoyed it as the competition made him work harder.

It was clear that many of the children found it hard

to work collaboratively, to find a 'group' solution. The tasks were still an extension of their individual efforts where copying was 'bad' and competition 'good'. They preferred to work on their own because their contributions could be identified and rewarded.

Nonetheless, the children did see other possibilities in group work. Amongst the more positive aspects which were mentioned was the fact that it allowed members to learn how to work together. This was seen as a skill in itself. It was elaborated in many ways: learning to combine ideas, learning to organise people's ideas, having to listen to people and having to put up with those who were silly, stupid or bossy. Other points which the children mentioned were that you learnt to communicate and share ideas, get more ideas, see that there are other ways of doing things. There were also the other social benefits such as making friends, gaining confidence.

However, in answer to the question 'what could be gained from groups?' 25 per cent replied 'nothing'. This answer clearly indicated the children's conception of learning. It was evident that the children felt that 'learning' was learning facts, learning things, or how to do things. Thus, as during the tasks they had not been taught anything or set to discover a specific outcome they had therefore 'learnt' nothing. Yet of the 23 who gave this answer, all but five, when answering the question 'what did you like about group work?', mentioned many of the benefits and skills related to the process of group work, yet these 'gains' didn't count as 'learning'.

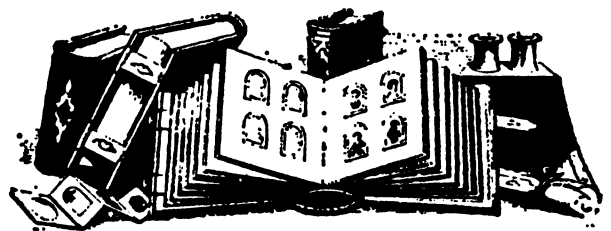
The only real 'sufferers' were the members of mixed-sex groups all of whom at best tolerated the situation and at worst swore at each other. Lastly, there were four pairs of children for whom even a group of four or five was too large to feel comfortable in.

It was clear from this study of 99 children and 96 tapescripts that group work has its problems as well as its benefits. The problems were of two kinds. Firstly, the composition of grouping could cause difficulties: the inclusion of shy, slow or belligerent members might hinder a discussion. Whether it did so depended on the social relationships within the groups and these problems were not themselves insurmountable . . . except it seems in mixed-sex groups. Secondly, the absence of key strategies resulted in poor discussions: these include challenging, monitoring and, needless to say, listening.

However, it is the benefits which are of greater significance. Group work provided a specific learning environment in which different skills were required and different roles could be played. It was the low achieving boys, in particular, who responded well to the different learning mode. Group work also gave the reticent child a 'safer' context in which he could more fully participate, while the bright child had to consider his contributions more carefully. The importance of challenging and questioning must not be underestimated. It is a skill which needs training and can be practised, pleasurably, by sophisticated forms of common games such as Twenty Questions, Animal, Vegetable, Mineral, and How and Why. Finally, for the children to benefit further, it would seem important for them to understand the significance of learning to learn and to be alerted to the positive process strategies, rather than show such concern for the learning products only.

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# Discussion

## Community Education

One of the more interesting things about being on the job market is that one has the opportunity to visit several schools, and observe them at close quarters. As a result of my perambulations this year, I have come face to face with a number of community education projects in the Midlands.

As I understand the matter, a community education project may be defined as one comprising a school, with a deputy head – ‘community’ – a community lounge, a bar, a sports hall, a youth club, an all weather pitch, and an adult education centre. It is intended that such a project will be for the use of the whole community within a given catchment area.

Now, it is my intention, not to criticise the aims and objectives of community education, but to raise certain issues about how such projects are set up and organised. Some of my remarks will be the result of six years experience in Coventry, others will be the outcome of my random visits to similar projects in Walsall, Wolverhampton, Staffordshire, and Leicestershire.

First, these projects seem to be the result of a peculiar mixture of *reification* and *nominalism*. Reification is a well recognised, but primitive, practice. It is based upon the belief that if you materialise an idea or concept, then it becomes real. It seems to me that local authorities are convinced that all they have to do is to make a project appear, and for headmasters to say ‘Thy will is done’, and the community is educated, and the local residents grateful. Furthermore, this practice is often accompanied by a modern version of nominalism – a naive belief in the power of words; that all you need to do is to say the words ‘community education’, and it will exist; to call something a community project, at once renders it so. I submit that unless such simple thinking is abandoned, and much more

rigorous analysis is put into the setting up of these projects, then we shall see, in the Midlands at least, a great number of very expensive buildings either unused, or vandalised, or of course taken over by the ‘educated middle classes’. And these projects will become yet another testament to the ‘ingratitude, the stupidity, the “hollow men” of the working classes’.

Second, community education, according to Midwinter, Rennie, and others, is a policy about designing education as a public service, to be accessible at all times, and to be governed by residents, teachers, pupils, and local councillors. It is not simply a set of buildings: although admittedly the buildings may be the necessary base from which the policy is developed and practised. We too often forget that a local education authority can have a viable policy of community education, without having spent a penny on buildings.

Third, community education projects are usually based on secondary schools; although there are some found in junior schools. The fact that they tend to be accessible during the day does have serious implications for any school. For example, with adults coming and going, the school cannot be run as if it was the sole province of children. Caretakers and teachers cannot take an authoritarian, exclusive, attitude to such adults on the premises any longer. Teachers and pupils have to get used to ‘strangers’ wandering around the school. If local residents are to be encouraged to join classes along with the pupils, then the discipline of the class will have to be more carefully organised: there can no longer be such an emphasis on physical intimidation. On the other hand, the atmosphere of the school must be relaxed before it will even be used by the local residents. It is no good developing a school with bad relations with its pupils into a community project – for this will invite vandalism on a large scale, particularly at first. Furthermore, it is no good thinking

that such projects can be run by the teachers. Such open access schemes need additional staff – not only to organise on-site activities, but also to contact the community at large in order to publicise the project. Too often, education officers forget that many adults (particularly those whose school experiences were negative) object to using school premises for their leisure or further education, and they have to be persuaded.

Fourth, the fact that these projects are used by many groups may mean that they are governed by a body that is representative of those groups, not simply the local authority. Thus, community education may mean that the interests of the school become one set of many, and the school curriculum one of the many legitimate activities of the project. Thus, through the government of the project, the teaching of children and the demands of the teachers may not automatically be regarded as the most important claims on its resources. There may be a professional crisis – no wonder the teachers’ unions view community education with suspicion.

Finally, such projects, if they are successful, are involved in a great number of activities: from adult literacy to play groups; language classes for ethnic minorities to mums and kids groups; from welfare rights to local homework study groups. The staff have the opportunity to be involved not only in school activities, but also in community activities.

School teachers are confronted by the possibility that they could be equally useful outside the classroom as inside it; headmasters and education officers are presented with the prospect that in fact a teacher’s place is not necessarily in the classroom, that in fact they may be as usefully, and productively, employed in community-contact as pupil-contact.

It seems to me that, if we are to save these projects from the educated middle classes, and to secure them for the working classes, then local authorities

and education officers should attempt to avoid the pitfalls of reification and nominalism, and to think through the implications of a community education policy for organisation, budgeting, and staffing.

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## Improving the Attitudes of School Leavers

Devon Education Authority is encouraging the development of an idea which could help to improve the attitudes of school leavers and to reduce juvenile unemployment.

The idea is simple and obvious but it is also quite radical and does not fit easily into established patterns of schooling. It is that pupils should make their own educational records. Of course that does not mean that other people stop making records or that schools stop examining. The records that pupils make are not intended to replace any other records but to provide something extra both for those pupils who make them and for those who may read them.

The aim is to encourage pupils to think about the way they spend their time and about the way they want to spend their lives. The schools that are operating this system see a need to make youngsters who are approaching the school leaving age feel more responsible for what they are and for what they are becoming. The pupils concerned have to think hard about their activities and their interests and their values and they have to make personal choices of those

things that they consider to be important or significant or worth recording.

To let them do this, the school has to accept the choices and the decisions that pupils make. We cannot on the one hand say that people must make decisions and accept responsibilities if we then veto any decisions that we would not ourselves have made for them. The pupils therefore make these records according to clearly defined rules. Every item must be freely chosen by the recorder and expressed as he or she wishes. Every item must be true and signed by an adult who knows it to be true. If an item is true and the recorder decides to include it then no one has the right to reject it.

This is difficult partly because schools have an ingrained inclination to instruct, to examine and to correct in all circumstances and at all times. This makes it difficult for schools to be caring and supportive when it is the pupils who are having to take responsibility for themselves. This is not a problem that is in any way new to the schools or indeed unfamiliar to any parent of a teenage child. It is difficult not to dominate and to direct. It is difficult to let young people stake out their own identities and make choices that may be right for them but would not be right for us.

The other massive problem that schools face when they invite pupils to make their own records is that pupils are accustomed to protecting their own identities by keeping themselves to themselves. They suspect that teachers only want to know about them in order to change them. For this reason the records have to be made in such a way as to preserve privacy. It is important that no pupil should feel pressed to record anything that he wants to keep outside the record. All the teachers who are involved find this a difficult balance to strike and one of the main threads of the work that is being done in Devon is the study of this particular aspect of recording.

Fortunately, the benefits clearly outweigh all the difficulties. Young

people who spend some regular time thinking about their activities and interests and skills and who think constructively about the way they can best develop their strengths are better able to sell their skills in the market place when they leave school. They also have a document which shows their qualities and their personality as any personally compiled record is bound to do. This can be of enormous interest to employers who really do need reliable information about personal qualities, values and attitudes. It can help to reduce juvenile unemployment both by providing reliable and relevant information about school leavers and by directly improving the motivation and the attitudes of the young.

This system will enable schools to adjust to the needs of the electronic age which will inevitably reduce the value of memorised facts and learnt skills and increase the importance of all the specifically human attributes that no robot can take over. It will be more important for people to be different and to take responsibility for themselves. People who have been programmed like robots will become redundant but people who have energy, will, self confidence, imagination or indeed any necessary attribute that no machine can possess will have a place in the world.

It is therefore very important that schools should make this shift from group instruction to individual recording. So far a lot of practical work has been done in schools to achieve this end. It began in Swindon with the Record of Personal Achievement. Then in 1974 a new system, the Record of Personal Experience, Qualities and Qualifications was introduced at King Edward VI School, Totnes, Devon. Devon is now providing the time through a school teacher fellowship at Exeter University for this work to be placed on a firm theoretical base so that more schools can carry it forward. There are clearly very strong reasons for believing that this development can help to ease the problems of juvenile unemployment and

it is therefore very important that this work should be done well and done quickly.

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## Cross-age Tutoring

Two very interesting articles appeared in the previous issue (*Forum* Vol 21, No 1, Autumn 1978) concerning the practice of mixing children of different ages in the same class, an arrangement known as vertical grouping, or family grouping. This would appear to be a particularly interesting form of grouping, for which many potential benefits have been suggested or claimed. It is as yet, of course, very much in the embryonic stage of development at the present time; the literature in the area is very thin, and to my knowledge no large scale, impartial research has been undertaken, or indeed has been possible, given the small number of practitioners.

Having surveyed the few available articles and the single book on vertical grouping (by Ridgway and Lawton, 1965) it is surprising to find that no mention is made of the literature generated by a very closely related topic that *has* received considerably more attention. I am referring here to the use of older children as teachers for younger ones, an ancient technique which has recently been resurrected in the USA, and is contemporarily known as "Cross-Age Tutoring", or simply "Tutoring".

In one or two places, articles on vertical grouping do in fact mention, as one possible benefit, the ability to use older children as helpers and guides for

the younger children. However, little emphasis is placed on this matter either in the vertical grouping literature, or in practice. For example, in First Schools that I have visited in Exeter which are organised on vertical grouping lines, little if any planned, structured interaction takes place between the children of different ages in a class. Vertical grouping seems to be adapted, in the main, for other reasons.

By contrast, in the many dozens of tutoring projects and investigations, a form of vertical grouping is organised specifically with the aim of establishing a programme of structured interaction between the different ages. And why? The obvious reason, one would think, for adopting such a system of child teachers is to benefit the younger children, the tutees, by close one-to-one teaching from other older, competent children. Interestingly though, this is *not* the main reason lying behind the use of tutoring. It is, in fact, the older children, the tutors, who are generally found to be the ones deriving most benefit from their teaching, both intellectually and socially. Thus the title of the first book to appear on tutoring is **Children Teach Children: Learning by Teaching** (by Gartner, A. *et al*, 1971).

In this very readable book, the authors acknowledge that the central ideas of tutoring are by no means novel. The Romans appreciated the value of such a system, as have, in more recent times, teachers in small one-room village schools. But perhaps the most interesting quote in the Gartner book is taken from a manuscript probably completed in 1632:

'If a student wished to make progress, he should arrange to give lessons daily in the subjects which he was studying, even if he had to hire his pupils.'

Socially, and in their self-image, tutors are considered to benefit by holding a position of responsibility and status: and intellectually to benefit from the necessity to understand and organise material before being able to teach it themselves. What better method for those who

advocate the active involvement of children in the learning process?

I undertook a tutoring project as part of a psychology degree course, and was surprised to find the area virtually ignored in this country. In the light of recent developments in vertical grouping here, this seems even more surprising. Those who use forms of vertical grouping in schools in this country may be interested in following up the tutoring literature. The two main references are (i) the book mentioned above by Gartner, A., Kohler, M., and Riessman, F., (ii) Allen, V.L. (1976) ed. **Children as teachers. Theory and Research on tutoring**. The many articles may be traced by first consulting **Psychological Abstracts**, under the 'Tutoring' section.

Were knowledge of findings in tutoring projects to become more widespread, it seems likely that more emphasis would be placed on structured, cross-age child-child teaching sessions in vertically grouped classes.

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# Success in Learning

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One of the privileges of doing a job like mine is the opportunity it gives of seeing different teachers in different schools teaching different subjects. It's hard to overestimate the effect such experiences have on one's thinking and teaching. When I see a teacher of Maths and a teacher of Home Economics using substantially the same successful approaches to encourage their pupils to learn; or when a Science teacher and an English teacher devise remarkably similar worksheets to help learners to come at new ideas in their separate subjects – then it's clear that, whatever the differences, there are family resemblances between successful teachers.

I'm begging a question there immediately: what do I mean by 'successful'? What I'd like to do is to define my criteria for successful teaching and learning, and to describe practice that in my experience has led to that success. Much of what I say will seem obvious. None the worse for that, though: some obvious things don't get said often enough, and so tend to be pushed to one side.

My first criterion of successful *teaching* is that it should begin by acknowledging the emotional as well as the intellectual, the group as well as the individual, and the totally personal and private aspects of learning as well as the public.

'Success in learning', of course, is not simply controlled by 'intelligence' or 'academic ability'. What one is, determines how and what one learns. The reverse applies too: what and how one learns, affects and may even change what one is as a person. The complexity of successful learning includes how one *feels* about the topic, why one is learning at all, what personal pre-occupations one has, and so on. Any criterion of success that focuses only on the academic is as likely to be inadequate as those criteria that focus only on the social or psychological.

My second criterion is directed by my own commitment to the notion of the centrality of language in human relations. It is language that makes us human,

because through our own language each of creates and interprets the world we live in. Thus, I see talk, listening, reading and writing as the *essential* learning activities of education. But I see them in particular ways. Talk is the medium in which we begin to make sense of our lives. Our anecdotes about experience, our reminiscences, our co-operative solving of problems, and so on – these go on in the talk that floods through all our day. We build and fracture relationships, take on new ideas or declare our confusions, explore ourselves and others, see patterns and uniqueness, in talk above all. In reading, we reflect in calmness on the ideas, opinions and experiences of others, and in doing so test our own experiences and ideas. In writing we formulate and shape our thinking in a more permanent way, forced by the loneliness of the medium to empathise with our projected audience – how will the reader react to this? What will I need to write to make it clear to my reader what I am saying, and how it is to be comprehended?

Thus, following this act of commitment on my part to language, my second criterion of successful teaching is that it should recognise the power of language by finding ways of building on the inevitable human functions of language, that innate capacity for learning that is in everyone. In addition, it should see that each learner works at the frontiers of both knowledge and language: 'the limits of my language are the limits of my world', and that means that whatever 'language development' is, it can't be separated from the fulness of the person, because as one's capacity for language expands, so does one's capacity for interpreting and comprehending the world.

The third element in what I define as successful teaching is ultimately political, concerning the place and role of the individual and the group in our culture. It seems to me that the major changes in our schools over the past thirty years have been in this area. Most of the teaching I received as a pupil was designed to make me feel that I was one unique individual set in a particular place in a rank-order of quality. Above me

were those cleverer and more able, below me the stupider and less obedient. Talking was discouraged except when it was directed, at his invitation, to the teacher whose response would reinforce our existing knowledge that Smith was clever, Brown was silly and Jones was lazy. We shielded our books with hand and arm as we wrote: 'copying' was a criminal act, to be severely punished as cheating.

Whatever the intentions of that kind of teaching, it led me (and probably many others, too) to feel deeply insecure about myself as a learner. All evaluations were external, depending on the unexplained approval or disapproval of teachers: I lacked any kind of internal autonomous judgement to tell me how accurate that approval or disapproval was. I was thirty before I learnt that I had things to say that others wanted to hear, and rather older when I learnt that *everyone* has something to say which is unique and creatively original.

The system that most reinforced the insecurity was streaming, with its built-in and inevitable competition and sense of vulnerability: even the best might meet someone better and have their fragile confidence destroyed because that confidence depended only on feeling they were the intellectual betters of their competitors. The 'scholarship boy' explored by Jackson and Marsden in *Education and the Working Class* was no hypothetical construct. As a teacher, then, I was anxious for a way of publicly saying to pupils that everyone can offer something unique, and that whatever the topic there is a time for individual work, and a time for group endeavour. Group theory is categorical about the way in which certain kinds of learning are so much more successful done by a group than by an individual, and about how what controls the learning of a group is the capacity of the most able, not the least able. So my third criterion of successful teaching is that it should organise learning so that any individual should learn things about the information being transmuted into knowledge and understanding; about the rest of the group, what they are capable of and what it is like to work with them; and about his or her own self, learning to accept and value what he or she knows, thinks and feels.

What I have seen that matches these three criteria I have proposed as the mark of 'successful teaching'. My work in the course of encouraging and implementing ideas about language and learning across the curriculum in secondary schools has taken me into different class-

rooms, where I have seen talented teachers. I want now to describe a brief selection only of the kinds of teaching I have seen that, recognising the potential in all pupils, has set out to stimulate and encourage learning.

## Situation 1

An English teacher selects a poem. It is very recent (published in 1978, the winner of a competition). He puts his second year class into groups of three or four. Some of the groups are self-chosen, some he arranges. He asks them to read the poem and to talk about it, or anything it makes them think about. Tape-recorders are provided, and the groups record their talk.

Afterwards, he listens to the tapes as he drives home or to school in his car. A few days later he gives the tapes back to the groups, makes some comments to each group about what he particularly noticed when listening to the tape, and asks one group in particular if they feel like transcribing it. They agree, and in the next few lessons transcribe it. When they have finished, he has their transcript typed up, and printed, and all of them listen to it together, commenting on the points made by the boys, and on how they interpreted the poem.

### Commentary

The major effect of this is the startling way the class grows in stature as it recognises that on each tape everyone says interesting things that *no-one else had thought of*. They learn also that they can – and do – understand a complex poem without the direct intervention of the teacher. They learn to their surprise, that a tape-transcript covers as much as eight pages – more than any of them could ever have *written* about one poem. Finally, they have brought to their attention the way their group talk shuttled between anecdote and close textual analysis, between asking questions and thinking aloud, and between concentrated attention and relaxing asides. They have learnt something about how they learn.

## Situation 2

A Science teacher has come to the end of a unit of work on solutions and distillation, and wants to test her pupils. The department usually employs a multiple choice test, which she does, but she adds her own. After they have completed the test each pupil in her second-

year class receives a single sheet of paper. Written on it is this:

#### **Chapter 1**

It had only taken five minutes for the ship to sink after the fire and the final explosion, but the swim to shore had been agonisingly long. He could not remember losing consciousness but the hot sun burning into his skin brought him round. He was on a small island, a quick look round showed him there was no one else on the island and what was more no fresh water. Could he survive? He sat for a long time in deep thought.

#### **Chapter 2**

...

The pupils are asked to complete Chapter 2. When the teacher reads them through, she notices that some of those who did very well in the multiple choice don't do well here; and that some who couldn't cope with the other test, have no problems with the story. She also notices that one boy who never writes anything, and is usually apparently unable to write, manages the longest piece of continuous writing she has ever seen.

#### **Commentary**

The teacher has tapped not just the ability of the pupils to remember, but she has found a way of seeing how far remembered information can be transmuted into understood knowledge. In addition she has intuitively recognised that the multiple-choice test may, as a device, suit some learners, but that others will need completely different kinds of assessment if their true capacities are to be known by the teacher. Also, quite consciously, she has accepted that ways of writing not normally associated with Science, that give pupils the chance to make jokes, to explore feelings and emotions, and to tell stories, may be more efficient as ways in which learners can come to understand scientific knowledge than conventional scientific writing.

### **Situation 3**

A Geography teacher tells his fourth year class they will be trying to find out something about the best ways to work. The same basic passage and questions (about land use) will be given to all groups, but the groups will work in different ways. The class sort themselves out by drawing lots for which of the groups they will be in. Group 1 sits in desks in rows. Group 2 sits in pairs, in a row. Group 3 sits round tables, as a working group.

Group 1 receives the passage, reads it, then receives the questions, and, singly and in silence, answers the questions. Group 2 receives the questions first, discusses them in pairs or fours, then receives the passage, and answers it singly. Group 3 receives the questions, discusses them, then receives the passage, and discusses the answers too. All the work is co-operative.

Before they begin, the teacher asks them to predict which group will do best. Most say 'Group 3', but some say Group 1 or 2. After thirty minutes everyone stops, and the teacher asks them to make some notes about which questions they've found hard, and what they think of their group's way of working. There is a long discussion during which the pupils tell the teacher a great deal about what they feel will help them to learn best.

#### **Commentary**

One crucial way of affirming the right of all pupils to be learners is to make explicit to them the basic processes of learning, to involve them in making decisions about their learning. Here, the teacher, by constructing this particular situation is drawing his pupils' attention to the characteristics of different kinds of teaching. When does one need to work as an individual and when in a group? What are the strengths and deficiencies of each? There are general answers, but there must also be personal decisions. The girl here who argued that she worked best as an individual, and so preferred Group 1 was as right as the pupils who said that in Group 3 they could sort out what confused them, and got a much better idea of how to answer the questions. The explicit attention to the processes of learning was accompanied by a subtle declaration, by the teacher, of the way in which talking, writing and reading were not ends in themselves, but were ways of reaching and understanding about complex concepts.

### **Situation 4**

A sixth form Biology teacher discovers the students are finding it difficult to read text books in order to precis the main points. She reads a paragraph from the book to the group, and asks them to discuss it, write down what they feel the main idea is, then, in the full group compare their suggestions. The teacher hands out a scientific paper, and tells the students to produce a summary of the main points, one per paragraph, so

# Giving Change a Chance

Ray W. Russell

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Twenty years ago I was preparing for 'O' level at one of the many small selective schools of the era. For five years my teachers had been attempting to fill me with the appropriate sections of a vast and immutable body of knowledge in much the same way as a jug pours into a cup. My part in the filling process was predominantly passive – generally speaking I 'received', 'accepted' and at the appropriate time 'recalled'. In Mathematics I would find the area of a circle by remembering how to evaluate the appropriate formula and I would perform this evaluation – and others of a more complex nature – by being able to 'do' logarithms. In this instance, and

in many others both in Mathematics and across the curriculum, it was my part to know 'how' or 'what' but not necessarily to know 'why'. My teacher's part in this process was to know the body of knowledge and to transmit it to me in much the same instructive manner as it had been transmitted from teacher to student for generations. The accepted and over-riding characteristics of this process were knowing 'how' rather than knowing 'why', 'accepting' rather than 'questioning' and 'doing' rather than 'understanding'.

Society has changed in twenty years. Accompanying a gradual move from an elitist to a more egalitarian

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*Continued from page 101*

that they themselves can use and understand the precis later. They are to work in twos and threes again.

## **Commentary**

Again, as with Situation 3, the very close interrelation between all the language modes is explored here: the talking, listening and writing, derived from the reading, are all ways of coming to an understanding of the Biology itself. And the ways in which the groups can come to recognise that ideas are not 'right' or 'wrong' but are *suitable for one's own purposes* – this is crucial. There are steps beyond this first exercise, where students learn that the major idea when one is examining (for example) research methodology, is different from when one reads the same piece for evidence of a different kind. In exploring such complex ideas, too, support from colleagues and fellow learners is important. Without it, the students' insecurity can be too great for any real learning to occur.

and learning is an idea that is simultaneously simple and complex: it is simple because once grasped it suffuses everything else, and gives a single organising direction to all one's teaching: but it is complex because of its conceptual difficulty. The idea is partly explained by Michael Armstrong's phrase 'reconstructing knowledge': it is characterised by an important passage in the Bullock Report, that I want to close with, because it is a commentary on all the situations I have described.

It is a confusion of everyday thought that we tend to regard 'knowledge' as something that exists independently of someone who knows. 'What is known' must in fact be brought to life afresh within every 'knower' by his own efforts. To bring knowledge into being is a formulating process, and language is its ordinary means, whether in speaking or writing or the inner monologue of thought. Once it is understood that talking and writing are means to learning, those more obvious truths that we learn also from other people by listening and reading will take on a fuller meaning, and fall into a proper perspective.

One of the central threads in the work on language

society the vast majority of the population is now much less willing to 'receive', 'accept' and to 'follow' direction without questioning and without understanding. There is now more awareness among people of their right to question, to suggest and to take part as unique and independent thinkers in formulating their immediate and wider environment.

In school perhaps we are reflecting this change away from the elitist end of an elitist/egalitarian continuum by looking toward ways of giving all our students an equal opportunity to become rational and independent beings. By and large our secondary students are now receiving their secondary education at comprehensive schools and inside the schools teaching is increasingly being carried out in all-ability teaching groups. Subject teachers are tending to place more emphasis on individual students' 'understanding' and adopting a questioning, exploratory and analytical approach to learning, rather than on simply knowing 'how' or 'what'. Thus in the past ten years we have been attempting to move from a situation where – by and large – students have been taught in groups of roughly the same ability in the didactic 'teacher to whole class' manner that had existed for many generations before, to a situation where students learn in groups of mixed-ability, often on individual programmes of work designed to encourage students to explore, hypothesise, test and analyse for themselves. This change is one of 'kind' rather than 'degree'. It is a change that marks a complete reversal of philosophy and organisation.

My teaching subject is Mathematics and my department, like many others, has recently adopted a teaching method and philosophy similar to that described in the previous paragraph. Major changes are demanded of the teacher, both in terms of classroom role and philosophy, in making this move from teaching streamed groups in the traditional class teaching manner.

Contrast the two teaching situations. Characteristics of the traditional mathematics classroom are likely to include:

- 1 All students are taught the same thing at the same time.
- 2 Much use of the 'class' lesson.
- 3 A tendency towards a formal working atmosphere with a discouragement of student interaction.
- 4 Formal classroom organisation with little student movement in the classroom.

- 5 A belief that a streamed class can be successfully taught by aiming a lesson somewhere at the middle of the ability range.
- 6 Teaching emphasis ensures that students can 'do' rather than 'understand'.
- 7 A tendency to think that it is the teacher's role to tell the student 'how' (say, to find the area of a triangle) rather than to encourage him to explore and look for his own way to a solution.

The 'individualised programme' mathematics classroom, at its best, is – in contrast – likely to display these characteristics:

- 1 All students will follow individual programmes of work, therefore there might be twenty different topics being learnt in the same classroom.
- 2 Little use of the class lesson.
- 3 A tendency to a more informal working atmosphere, with student interaction encouraged.
- 4 Informal classroom organisation, with student movement around the classroom to get apparatus, workcards, answer books etc.
- 5 A belief that students need individual work programmes according to their individual ability/achievement/previous learning background.
- 6 A teaching emphasis on investigatory work designed to promote more 'understanding' of what is being done.
- 7 A belief that a teacher is more of a 'manager' in a learning situation rather than an 'instructor'.

Looking through the lists – and lists as contrasting could be compiled for many areas of present day change, such as that from the traditional to the community school – it is easy to see that areas of difficulty are likely to arise in the early stages of such a transition. Given the enormity of this particular change it is not surprising that, countrywide, teachers taking mixed-ability groupings often are 'not clear of their objectives', 'are using ill-prepared programmes of work', 'make little attempt to evaluate' and let 'social aims replace academic aims' (see *Mixed Ability Work in Comprehensive Schools*, HMSO) but it is surprising perhaps that in some schools mixed-ability organisation is leading to good results both in social and academic terms (see *Streams for the Future*, an account of a controlled comparison of streaming and mixed-ability conducted at Banbury School, and *Mixed-Ability Organisation in*

*Mathematics*, a Schools Council publication).

Given the extent of change often required of teachers if new methods are to be a success, and that – as in the case of mixed-ability teaching – new methods can be very successful, it is surely counter-productive to look toward ‘reverting to type’ in the face of difficulty, as some contributors to the Great Debate and some recent reports (see *Mixed-Ability Work in Comprehensive Schools*, HMSO) tend to suggest. Particularly as the ‘type’ one would revert to may be fraught with very similar problems. It is surely much more positive to look at what can be done to give more departments contemplating change to mixed-ability organisation, or any other major change which will throw additional responsibility, workload and stress on the teacher, more of a chance of success.

From being involved in my own department’s change of organisation and philosophy and from observation of other similar major changes in school, I would suggest that to give ‘change’ a fair chance we need to look toward:

Reducing to a more acceptable level the extra workload involved in implementing change which often requires a teacher to spend much time attending to low-level tasks, leaving him little opportunity of becoming au fait with new organisational methods and philosophies. This might be done by employing extra ancillary helpers in schools and by involving parents in resource reproduction work. The latter move also has the advantage that parents involved are likely to come to understand what change is being made and why it is being made and are likely to help disseminate this to other parents.

Obtaining an appreciation by parents, pupils and employers of the projected change, and thereby securing their support – or at least avoiding their uninformed opposition. We would need here not only to involve parents in the change as suggested previously but also to hold parent/employer evenings where the change can be explained, discussed and the new methods or materials ‘tried out’. If parents and employers are to be behind the move they must understand what is being attempted.

Making every effort to make professional expertise available for support and debate purposes and to make school time available for teachers to take maximum advantage of it. This would not necessarily be by LEAs

providing the traditional in-service courses only but by them also providing more advisory involvement in the change as it takes place in school. Colleges of Education and Universities might also have a contribution to make. Our local college was only too willing to provide a group of students to help in the classroom on a regular basis during the initial stages of our change. This helped to reduce problems caused by sheer numbers in a class when the teacher was trying to adapt to a new style of teaching. The students also benefited by being able to get to know individual pupils without the pressure of full class control. The move also, of course, brought into school College lecturers and made them available for discussion of organisational and philosophical change. A spin-off from the arrangement was that the College later filmed a typical ‘individualised learning’ lesson, illustrating the new organisation and philosophy, which they now use for ‘in-service’ work and which we use for illustrating a new situation to prospective members of the department. There is, I feel, a largely untapped field of co-operation and mutual help between schools and higher education institutions. It needs to be explored.

Time might be made available by the employment of extra staff or, more likely, by such means as temporarily weighting the faculty or department timetable in favour of subject areas or year groups involved in change (for instance, by slightly increasing teaching group numbers in one subject or year area to give time elsewhere).

Perhaps, too, we need to scrutinise the way we in schools use the time available to us. Over the past fifteen years, for example, the non-teaching time given to staff with pastoral responsibility has been progressively increased. In my experience much of this time is taken up by trying to solve problems caused by disaffection to lessons. Given that all three of the reports mentioned previously stress the vast improvement in social relationships, atmosphere and attitude in a mixed-ability classroom, it might be that some major pastoral aims could be achieved by using some pastoral time for consolidating change and improvement actually in the classroom.

If we are to reduce problems which arise through change, and lead to disaster, we must look toward giving real help to those involved. Teachers need to understand new philosophies and feel easy in new organisational arrangements if, in general, new methods are to have any real chance of success.

# Public Examinations: Whatever Next?

Andrew Finch

Andrew Finch, who looks here at current perspectives relating to public examinations, is Principal of Longslade College, Leicestershire.

In order to see the current 16-plus proposals in perspective, let us think back to the early 1960s, when comprehensive secondary schools were still in a small minority. O-level examinations, then only about ten years old themselves, dominated the work of grammar school pupils below the sixth form. Most secondary modern pupils left school without attempting any public examination, but many did sit one or other of a number of lower-level examinations which existed at that time, with diluted quasi-academic syllabuses and not carrying very much weight. Increasingly, an ambitious secondary modern school would groom a small top stream for O-level, putting a disproportionate share of its total resources into that one group of pupils and often achieving a respectable number of examination successes – in contrast to the typical grammar school bottom stream, in which success at O-level was rather the exception.

The spread of comprehensive education was soon accompanied by the quest for a more appropriate examination system for those not already felt to be adequately served by O-level. So came the Certificate of Secondary Education, the first examinations for which were held in 1965. However, the CSE was not recommended for large-scale use by the bottom 40 per cent of pupils: after all, it was a 16-plus examination, and the minimum school leaving age was still 15.

In spite of its limitations the advent of CSE had a beneficial effect, particularly on some of the more enterprising teachers in the new comprehensive schools. These teachers grasped the opportunity given them, particularly under Mode 3, to think out for themselves what should be experienced, studied and learnt by the majority of 14-16-year-old pupils, and how their learning could be fairly assessed. The challenge of building

up an examination syllabus from first principles and developing appropriate techniques of assessment saved many a teacher from being a conventional pedagogue, purveying second-hand ideas and sheltering behind syllabuses imposed by a higher authority, and stimulated him to become a more original, creative educator. It must equally be admitted that such a transformation proved beyond the capacity of some teachers, so that some early CSE syllabuses, including Mode 3 ones, turned out to be no better in themselves than those which they replaced. However, the challenge was there, including the opportunity to accept an important share of responsibility for the assessment of the 16-year-old candidate's work, and that very fact marked a highly significant step in the evolution of our teaching profession in this country.

For the pupil of the calibre to be somewhere near the borderline of an old O-level pass, a CSE course was intended to be of greater educational benefit than an O-level course, irrespective of which side of that borderline he might eventually fall. Accordingly an early exhortation from the Schools Council urged us, for the sake of the pupils concerned, to enter a reduced percentage of fifth year candidates for O-level examinations and to put all but the ultra-academically inclined on to CSE courses instead. A very few of us in the schools went some way towards taking this advice. Our critics condemned the policy as unrealistic and foolhardy: we hoped we were being courageous and rather far-sighted. At all events, we found in practice that the new approaches were so beneficial to genuine educational progress that not only the borderline O-level candidates, but the very ablest pupils, ought to be allowed to take advantage of them, at least in some areas. (It is remarkable, incidentally, how many considerable educational

reforms have started from lower down the ability range – and/or from lower down the age range, for that matter – and have gradually worked their way upwards.)

By the end of the 60s the school leaving age was shortly to be raised, so that there would be more examinees at 16-plus, and more and more comprehensive schools were being formed. At about this time it began to be argued that to continue indefinitely with two overlapping examination systems for the fifth year age group was wasteful and unnecessarily divisive, and a movement towards a single, unified system of 16-plus examinations got under way. The earliest date when such a single system could be introduced was originally suggested as 1975-77.

There was the predictable outcry from all quarters, including the majority of secondary teachers who were still inexperienced in fully comprehensive education (and certainly not all schools called comprehensive are genuinely so in composition, organisation and philosophy). Was a unified system even feasible, let alone desirable? So we had the feasibility studies of the early 70s. What was lacking in secondary schools generally was not merely the relevant experience but the will, the political will no doubt, but more basically the sheer human and moral will, to include all pupils within a single, improved system. It should not have been a question of *whether* to introduce a single system, but *how* best to do it.

We could have been ready for a common 16-plus examination system by 1975. Instead there were endless investigations and discussions, culminating in the Waddell report, the Labour government's acceptance of its proposals in principle, and the Conservative opposition's ambiguous reaction, now seeming to reject them, now climbing back on to the fence. With a general election due, this was not a reassuring state of affairs.

## Vested interests

Powerful vested interests, as always, constituted a massive obstacle to change. A few years ago we saw a transparently cynical initiative on the part of the GCE boards when, alarmed at the loss of potential clients to CSE, they began awarding O-level certificates to thousands of candidates for examination performances

below the old O-level pass standard. There are still people who do not even realize clearly that O-level grade D or E now officially denotes a less successful examination attempt, and certainly a much less valuable educational experience, than CSE grade 1. There must be many more who do not understand that CSE grade 2 is normally a more reliable sign of good work at a standard still well above the average than is O-level grade D. The good CSE syllabus is likely to encourage genuine learning at an appropriate level across a broad field of knowledge, rather than prematurely 'deep' and narrow study resulting in little more than parrotry. CSE examining methods are likely to be more reliable, both at this particular level, because here the CSE boards have far greater experience, and also in general at all levels, because of the greater variety of techniques adopted, the inclusion of more aspects of the candidate's work in the final assessment, and the anxiously elaborate moderation procedures to which they are subject. Yet public opinion persists in preferring the 'respectable' O-level, for no better reason than that it was the examination of the old grammar schools. So what are the prospects for a single, unified system of examinations at 16-plus, which (it might reasonably be thought) would retain and utilize all the improved methods pioneered by CSE?

Well, the General Certificate of Secondary Education may of course be introduced, either in 1985 or thereafter, in spite of the hurdles still to be negotiated: the accusations of lowering of standards; the daunting reorganization into groups or 'consortia' which the existing boards are asked to work at and agree among themselves; the hazards of party politics. If and when the GCSE does come, it may even happen that the necessity for public credibility will not be allowed to stifle the continued exercise of initiative and responsibility by the ordinary classroom teacher under Mode 3 regulations. If all these difficulties are successfully overcome, the new system will still, unfortunately, be too little and too late.

Too little, because the danger is that the bottom 40 per cent will still be left without a satisfying reward for their years of compulsory schooling, and therefore without the feeling that their future adult contribution to society is truly valued by the community.

Too late, because the expensive procedures held to be essential if the GCSE is to be an accurate and convincing measure of attainment are frankly more than



we can now afford. We should have worked through this stage long ago! By now we should already have had some years' experience of operating a unified 16-plus examination system, with all its elaborate machinery for guaranteeing maximum comparability, and then we might have gradually recognized it for what it would doubtless have turned out to be: a mildly irrelevant exercise after all, certainly preferable to a dual system, but still too cumbersome for its purpose, at worst a strait-jacket, at best an extravagance. We needed, perhaps we still need, to live through this process and this realization.

It must be expected that more and more young people will continue in formal education beyond the minimum school leaving age. The more that happens, the less appropriate it will be for us to think of assessment at 16-plus as something momentous and infallible, like a Last Judgment. Nationally validated tests of literacy and numeracy, supported by local assessments of achievement across the curriculum, externally moderated but not on such a neurotically elaborate scale as if the search for perfect comparability were anything but a wild-goose chase, ought by now to have become – and perhaps will become, eventually – the acknowledged and adequate yardsticks at 16-plus.

The need to broaden the sixth form curriculum has been urged and debated for even longer than the need for a unified 16-plus system. However, it is of crucial importance that a more fully comprehensive system of 14-16 curricula and examinations be established before any national decision on the sixth form comes to be taken. If sixth form provision were officially confirmed now on the lines at present suggested, with a clear division between the 'academic' student proceeding straight to a two-year course of Ns and Fs and the 'new' or 'non-academic' sixth former tackling a one-year CEE course, the temptation in some quarters to perpetuate the old O-level/CSE dichotomy would be powerfully reinforced. On the contrary, we need the GCSE proposals, for what they are worth, to be implemented as soon as possible, and then perhaps the courage will follow, both to open the doors still wider for the 14-16s and to keep them open for the 16-19 age group also: open in sixth forms as well as in further education, assimilating Schools and FE Regulations in order that full co-operation between sixth forms, sixth form colleges and other colleges for the same age group may be achieved at last.

Meanwhile, what of the N and F proposals in themselves? The studies which have led to these proposals were initiated by the Schools Council on the basis of three principles which seem to command quite widespread agreement. Let us look at each of these principles in turn.

### Three principles

In the first place, the curriculum should cater for a sixth form population which is considerably larger and less homogeneous than in the past. This is self-evidently necessary, unless one takes the view that sixth forms should be reserved for students of declared university potential and ambition, a doctrine to which few readers of *Forum* would be likely to subscribe. The trouble is, though, that terms like 'less homogeneous' are always relative, and official proposals for coping with a developing situation often fail to keep pace with the developments themselves. So it is in this case. For one thing, the Q and F proposals a few years ago were unpopular partly because it was envisaged that the Q or qualifying examinations might be taken at the end of only one year in the sixth form, and the idea of students needing to take public examinations in three consecutive years was unacceptable to some people. But with the spread of more varied examining techniques, and with the advantages of continuous assessment in particular gaining recognition as in practice (maybe paradoxically) reducing the strain on many students rather than increasing it, that objection loses much of its force. A second, obvious point is that the mixed sixth form of ten years ago is now so much more mixed still that the Schools Council's three principles have much wider implications than when they were first promulgated. The N and F approach, by making it possible for a sixth former who is not a university candidate to spend two years studying, say, for five N-levels, does offer something new: but by insisting that N-level as well as F-level must be reserved for the two-year sixth former exclusively, it sharpens the distinction between the one-year and the two-year sixth, a distinction which it would be in our best long-term interests to blur; and it expressly does not attempt, in itself, to cater for the comprehensive sixth form.

The second principle, namely that the sixth form curriculum should be broader and less specialized, is a logical consequence of the first; and it is a true enough statement, even if we restrict our thinking, regrettably, to the two-year sixth form, in the spirit of the N and F proposals. It is often overlooked, and it must be stated here, that many combinations of existing A-level syllabuses can and could be used as vehicles for a thoroughly good, broad, liberal education. But it is probably rare for this to happen, partly because teachers of the calibre to do so under present conditions are rare, and partly because those conditions include the continued domination of A-level practice by university influences, sometimes perhaps imagined but often all too real. However, as a first step, no doubt the widely canvassed compromise measure of introducing N-level whilst retaining A-level could bring some benefit.

Thirdly, the sixth form curriculum should enable choice of subjects affecting future careers to be delayed as long as possible. Yes, indeed! But this principle, above all, applies across the whole range of the new sixth, and not merely to those students who feel committed in advance to a two-year course. To think of prospective sixth formers, and to encourage them to think of each other, as being divided into two distinct categories — those who could benefit from two more years' full-time education in school (or in sixth form college) and those who could not — is unrealistic and, like all such thinking, wasteful of human potential. For that matter, it is equally unrealistic to think of all second-year sixth formers as being divided into those who would be capable of full-time higher education and those who would not. One cannot always tell at 17-plus, still less at 16-plus! Incidentally, but most important for the substantial proportion of all sixth formers who do still aim at higher education, the point must be made that the attitudes of university and other HE selectors are crucial, and there does not seem much evidence to suggest that these selectors would in practice use the new system in the spirit in which it is put forward. University selectors who encouraged a pattern of 3F + 2N, or 4F + 1N, instead of the suggested 2F + 3N, could quickly frustrate the intention behind the new proposals.

Finally, a special word about the place of sixth form general studies in the proposed scheme. For many years now, general studies courses have had a low priority in all but a tiny handful of sixth forms; their

importance, as providing a broad context of awareness and understanding for an otherwise necessarily specialized curriculum, has on the whole enjoyed little more than lip service from both school and higher education teachers, and sometimes not even that. In these circumstances one might be forgiven for questioning the realism of offering general studies to N and F candidates whose education, by definition, we would be attempting to broaden by other means. Yet an integratory general studies course, in the N and F or any scheme, remains an ideal not to be discarded lightly: a course which would give the separate subjects a proper perspective, and emphasize their interrelatedness and the place of each in the whole spectrum of human knowledge and experience. We have not found enough teachers with the necessary breadth of outlook under our present system, but we should not despair of finding them. Indeed we ought to be trying hard to supply the conditions in which such teachers might be encouraged to come forward, for a high level of general education, including moral education in the broadest sense, is a necessary safeguard and prerequisite if advanced specialist knowledge is not merely to give greater force to the expression of human folly in our society!

What can we conclude from all this? Let us keep options open. Let us work for the sort of constructive change which does not imply the negation of all that is good in the present situation but seeks to improve the great deal that is inadequate, short-sighted and anachronistic. Let us adopt N-level, by all means, as one agreed first step, but let us weigh again carefully the pros and cons of imposing a minimum age limit. Let us rationalise and simplify the system of assessment at 16-plus, dropping the myth of perfect comparability. At the same time let us accept that any reform of current educational practice is likely to demand, on balance, the injection of additional resources, in terms of materials, equipment, and particularly teacher time. (Schools Council spokesmen have repeatedly conceded that schools would in actual fact use more time for a curriculum comprising five examined subjects, than for three A-levels.) Thanks to falling rolls, we have a splendid chance of finding these extra resources. Let us make sure that we do find them, and let us use them to provide improved opportunities for teaching and learning. Above all, let us resist any examination systems, old or new, which do not contribute directly to this end.

# Going Mixed Ability: Some observations on one school's experience

L.A. Bell, R.C. Pennington and J.B.A. Burridge

The authors of this article, studying for an M.Sc. Education Management course, were invited into 'Pond Street Comprehensive School' to examine and evaluate the introduction of mixed ability teaching. The work was carried through between November 1977 and March 1978. This article presents their conclusions.

There are several justifications for the introduction of mixed-ability teaching. Moreover what constitutes such a method can be interpreted in a variety of ways. Like most secondary schools, Pond Street Comprehensive School, as we shall call it, has hitherto operated both streamed and banded forms of organisation. Recently, however, these have been felt to be inappropriate by some members of the staff and there has been concern about the social effects inherent in previous grouping practices. It was also believed that given its particular catchment area individual pupils might be failing to fulfil their potential. Concerns such as these provided the impetus for the school to examine the way it groups its pupils.

At Pond Street it was decided that mixed-ability teaching should initially be introduced in the first year and then extended to the second. Thereafter a conventional form of banding and setting would operate. In preparation for this change individual departments were given considerable freedom as to the interpretation of 'mixed-ability' within the existing organisation of the school. Children are now allocated to teaching groups using a common formula on entry. This is based on information provided from the five feeder primary schools and is designed to promote a social, as well as an academic mix.

Considerable organisational and managerial implications are attached both to this process and its concomitant effects throughout the school. In order to review some of these the following examination has been undertaken at the instigation of interested parties. A formally negotiated and agreed brief to define the limits of such an examination was formulated as follows:

To examine, review and comment upon the implementation and present functioning of the mixed-ability teaching in the lower school and its possible consequences for organisational effectiveness.

## Methodology

Information and staff views were obtained by means

of structured interviews. Generalised impressions arose from intensive visits in the earlier part of the academic year. Information was sought in areas such as the following:

- i) the extent and nature of initial planning activities
- ii) the forms and extent of staff development undertaken
- iii) consideration of changes in teaching methods and the curriculum generally
- iv) the existing management structure of the school and its mode of operation
- v) criteria for staff involvement with mixed-ability teaching.

The management of the change to mixed-ability teaching at Pond Street can be envisaged as passing through at least three stages – a planning phase, a phase of initial implementation and an operational phase. The report which follows is mainly derived from the observation of aspects of the operational stage.

It must be stressed that this planned change within the school was only implemented in September 1977 and the brief therefore has been considered in this light. Total evaluation of the change at this early juncture would be premature and could be injudicious, especially in view of the significant changes in senior staff which have taken place contemporaneously. What follows acknowledges this and the on-going nature of the change process.

## Planning

The school recognised that the introduction and conversion to a mixed-ability form of grouping would entail a change in existing allocation procedures and teaching techniques. These would have repercussions on the organisation. Consequently individuals, departments and the management team initiated a search of current literature, successful practice and specialist advice to help and to support this operation. Although the whole staff attended a half day colloquy during

this phase most of the activity took place within the existing departmental structures. Such tasks that were undertaken therefore appear to have been subject-focused and instrumental in motivation. To facilitate the forthcoming change extra resources were provided during the planning and implementation stages. Thereafter, as a general principle, normal capitation allowances were expected to operate. During this phase certain individuals within departments were also delegated responsibility for the generation and oversight of materials for mixed-ability teaching. All departments met to examine the implications of change for them. Some departments produced considerable amounts of prepared teaching materials and some individuals attended courses considered relevant to the new situation.

## Implementation

Implementation went ahead as scheduled in September 1977 and was extended to the second year in September 1978. Staff apprehension about the new form of organization appears to have decreased with its introduction although differences of opinion as to its desirability continued to exist with several views obtaining during this period.

Some individuals and departments recognised the extent to which implementation would require them to change their practice and welcomed the opportunity to extend their existing professional expertise. Others felt that implementation would not unduly affect their educational philosophies and teaching behaviours. Consequently for this group no fundamental reorganisation of individual practice or departmental procedures was considered necessary. In such cases current methods were considered flexible enough to accommodate the proposed mixed-ability grouping. The contention being that activities within specified subject areas had always recognised and catered for individual differences. A last group felt that mixed-ability teaching imposed demands which would not be easily reconciled with the hierarchy of concepts embodied in particular subjects.

Commitment to these stances would appear to be a function of a number of interrelated factors:

- the educational traditions of the knowledge areas
- the experience and expertise of staff within departments
- the availability and acceptance of teaching materials designed specifically for use with mixed-ability classes
- a willingness to accept a change of role from the teacher as a resource to the teacher as a manager of resources.

To date there is no intention to extend mixed-ability teaching any further.

## Operation

Pond Street School, a mixed comprehensive, was formed by the amalgamation of two single sex secondary modern schools in 1969. This historical legacy has involved operation across two separate buildings on the same site. Mixed-ability teaching is mainly based on the east wing in which years one and two are located. The existence of two buildings and the non-availability of certain facilities in each imposes operational constraints. These are magnified by the practice of physically locating departments in a particular building thus entailing the movement of pupils to teachers, rather than the reverse, with its concomitant behavioural and time-tabling problems. The time-table was already so tightly structured that little change appeared to be possible to accommodate mixed-ability teaching. Change to this form of grouping has thus been fitted into the existing pattern of buildings, departmental locations and a time-table designed for different educational purposes.

For these reasons the focus of management for planning and implementation has been the individual department with its specific and particular concerns, rather than the school as a whole. This has led to a situation in which policies, communication and procedures are directed sectionally rather than centrally. Situations thus readily arise in which a member of the management team with both school-wide and lower school responsibilities may only receive information concerning the latter narrower function. Feelings of

isolation engendered by buildings located some distance apart are accordingly reinforced.

The use of a proliferation of committees to act as linking pins between the separate parts of the organisation does not appear to have established sufficient corporate identity to ameliorate such perceptions. In this way teaching staff find difficulty in envisaging what mixed-ability teaching means in the school context, as opposed to their departmental or personal spheres. A multiplicity of definitions of 'mixed-ability' not only exist but flourish. Moreover, extensive deployment of part-time staff for mixed-ability teaching in the lower school makes the generation of common understandings more difficult to achieve.

## General Observations

Despite all the constraints, individual commitment, skill and enthusiasm *has* managed to create a situation in which partial change has occurred. The change has been partial however because it has only taken place within specific departments and has not been orchestrated so as to include the various discrete functional units which must combine in order to put a school's programme into operation. Many of these discrete groups do, of course, perform most effectively within the present structures and procedures. More often, however, it was the single individual who devoted him or herself to the exacting task of producing new materials appropriate to the needs of the whole ability range. Indeed, at times, it was only this thinly spread and highly pressurised handful of staff who carried the change forward.

Without doubt the efforts of these members of the staff deserved more tangible recognition than was received, particularly for the way in which they attempted to carry the strain created by combining developmental work and normal teaching duties. Managers in all kinds of organisations need, perhaps, to be more sensitive to both the ethical and practical considerations of 'using up' those members of staff who are willing to carry out arduous developmental work by virtue of their commitment to a professional ethic. Such people are, after all, a scarce resource, and

should be valued as such. Advancement on a broad front may only occur once isolated inputs are harnessed. For this to happen the school must be perceived as a series of interconnected sub-systems such that change in any one area requires related changes in all other areas. At the moment the lasting impression gained is that the staff see the school as a collection of discrete areas, any one of which can be changed without reference to its iterative components.

This assumption appears to have pervaded the stages of planning and implementation and continues to influence present operation. In so complex an organisation as a school and in a climate of educational and societal transition any change must assume radical proportions in its impact upon the institution. In the planning of change its radical nature was perhaps not entirely recognised, nor allowance made in terms of time span for thorough preparation. The imperative has perhaps been to find answers quickly before problems have been thoroughly identified, examined and evaluated, or alternatives considered.

Whilst no observer can doubt the considerable amount of effort which went into the production of teaching materials and acquisition of equipment before implementation, much of this inevitably took place in a knowledge and situational vacuum created by the relatively short planning phase.

## Specific Observations

i) Attitude and behavioural change takes time and the amount required is often under-estimated. Such change can best be achieved by means of careful, coordinated and appropriate staff development which involves the searching out of information, the dissemination of this to appropriate parties, and ample opportunities, both formally and informally, for this to be discussed and assimilated. This process did take place at Pond Street but was random in character and perhaps insufficient in quantity and quality for most tentatively or uncommitted individuals. Consequently whilst there may eventually have been a general acceptance of the necessity for a change there did not exist the wholehearted commitment to the nature of *this* change which is

usually associated with effective implementation.

Furthermore no one person or group exercised responsibility for staff development or co-ordinated programmes for its furtherance. Nor were the re-educative activities centrally structured and monitored. Communication of findings, policy decisions and resultant action tended to remain within the departmental framework and thus rarely permeated boundaries. A co-ordinated programme of school focused INSET could perhaps have ensured that professional expertise could more nearly match school requirements and that staff needs could be fulfilled within the context of implementing mixed-ability teaching. This would have entailed a review of existing expertise and experience, its further enrichment and continual enlargement

ii) Generation, formulation and implementation of change, although often perceived as three discrete phases, are in fact operationally all part of one continuous process. They are concurrent activities rather than consecutive events. The implementation of a change therefore needs to be accompanied by continuous monitoring, recording, evaluation and feedback which leads to further planning. The process involved requires that the management of any single change be integrated with the overall management structure of the organisation to ensure that competing policies do not pull in different directions.

It may well be extremely difficult to run effectively mixed-ability teaching and streamed teaching within the same organisational structures because of the different resource and procedural demands which the two systems impose. The change to mixed-ability teaching at Pond Street appears not to have acknowledged this. Indeed in practice the demands of one method of grouping appear to have severely constrained the development of the other. In a significant number of cases teaching techniques and their underlying philosophy derive from one set of assumptions while attempting to implement another.

iii) A possible lack of central co-ordination with regard to curriculum development has thrown the onus for any innovation upon the departments. It can be argued that this is appropriate since they contain specialists aware of, and expert in, particular fields of knowledge. On the other hand the barriers which appear to exist between departments have prevented exchange of

potentially relevant information regarding the organisation of pupils and resources to more effectively cope with the extended ability range. The general relevance of developments in one subject area (and considerable development has taken place by national agencies in some), has not been universally recognised. Resources and expertise tend to stay within departments and are not always available to a wider audience.

In some cases this problem has already been identified. For example, guidance with appropriate forms of presentation and structuring of material for remedial mathematics and language is available. This ought to be developed further in order that it may be used to meet the needs of pupils *and* staff. This will not only enhance effectiveness but begin to break down the existing communication barriers. Such a policy is a *sine qua non* of the forms of interdisciplinary inquiry considered by many to be a necessity for the successful introduction of mixed ability teaching.

Departments need to be encouraged to develop significant courses which have a strong interdisciplinary foundation. This is particularly true for the first year of entry whose experience hitherto may not only have been of this kind but have also contained large elements of individualised learning. Some departments have recognised and incorporated this latter element in their interpretation of what constitutes strategy for mixed-ability teaching.

iv) Even so, wide variations continue to exist both within and between departments as to what mixed-ability teaching entails. Such disagreement may well be both legitimate and fruitful if it is conceptually clear. The school however has to decide how far such differences can be allowed to develop before they adversely affect organisational effectiveness. Broad, but clear, agreement about the relationship between ends and means may need to be established if general momentum is to be maintained. Additionally the establishment of common understandings and shared commitments in this matter may well encourage agreement about related changes in other significant areas of the school's organisation. For example, the extent to which the present timetable structure may or may not successfully accommodate mixed-ability teaching; the relative amounts and distribution of time across the range of subjects; the appropriateness or otherwise of the existing departmental and management structure.

# Remedial Education and Adult Literacy

Malcolm Bain and Frank J. O'Hagan

Malcolm Bain and Frank O'Hagan are both members of the Department of Educational Science at Notre Dame College of Education, Glasgow.

Reading is possibly the most discussed of all learning activities simply because even in today's technological society, though one can survive without it, the disadvantages of being a non-reader to the ordinary pupil or adult are immense. This can also be said of basic numeracy skills. The aim behind our argument in this paper is that now is the time to initiate a debate regarding an integrated form of provision for poor or retarded readers and for pupils and adults requiring special educational assistance. It is directed primarily at remedial teachers in secondary schools and tutors in adult literacy programmes with the intention of highlighting the danger of complacency once a learner has acquired the basic skills of reading or numeracy. However, the issues involved are too great for the public at large to ignore. If one accepts the UNESCO concept of functional literacy as reading ability equivalent to that of the ordinary 13

year old, then it is clear that schools are patently failing in their duty towards many pupils. It is time for a total rethink concerning literacy and numeracy in our schools at both primary and secondary levels. The basic problem begins with attempts on the part of some teachers to define the term 'remedial'. In fact the use of this term is usually a negative way of looking at the entire problem and frequently says more about the educators who use it than the pupils to whom it is applied. It is surely better to start with the notion that most pupils can improve in basic literacy and numeracy skills and that for all children teachers must be attempting to go beyond present attainments in the cognitive, affective and motor domains. When one observes teachers at work with less able or underachieving pupils it is often the case that staff have been well trained to concentrate on initial assessment and diagnostic work in phonics, word attack

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*Continued from page 112*

## Postscript

The introduction of any change which questions existing practice must be attended by feelings of anxiety and insecurity arising from a changing identity of role. Most people, particularly after heavy investment in one set of values and practices, experience disorientation when confronted by new and perhaps initially unclear demands. Reversion to manageable states with which one is familiar frequently occurs when organisational expectations are reinterpreted in a way which temporarily overpowers individual's abilities to respond.

The organisation must counter these natural fears by an increased sensitivity, trust and solidarity based upon open exchange and honest exploration of dif-

ferences. This continuous process can only take place over an extended period of time and calls for an approach to management at all levels which recognises differences as legitimate while searching for common understandings and promulgating central policies deriving from these mutual agreements.

Where policy is clearly defined and grounded in public criteria freedom exists for sub-units to determine within acknowledged boundaries roles which are personally stimulating and simultaneously rewarding to the organisation. Only in such an ethos can orientation to the whole effectively take place. Without this sub-systems and goal ambiguity dominate and stunt organisational fulfilment.

and word recognition skills. The problem frequently is that there is the feeling that the task has been accomplished when basic 'reading' (i.e. decoding skills) has been acquired. Nothing could be further from the truth.

This is clearly witnessed in the fact that in many cases teachers and teaching authorities arbitrarily designate children below a certain reading level as 'remedial' or 'slow learners' with the implicit assumption that all other children above the chosen reading age are 'normal readers'. This practice appears to have been adopted to such an extent in many comprehensive schools that attention must be drawn to its inherent dangers. A hypothetical (though fairly typical) example may help to illustrate this danger: A large comprehensive school serving a deprived urban area had a staff complement for remedial education of two full-time members and one part-time member. After finalising the time-tabling arrangements it was decided that all pupils under a reading age of 9 years 6 months on a standardised reading test should be given special assistance with reading. When one took the particular situation of the school into account it was not surprising that there were easily enough children to keep these staff busy throughout the entire teaching week.

Half-way through the term one of the full-time staff was transferred to another school and the cut-off point was reduced to 8 years 9 months leaving many pupils who were clearly poor readers no longer receiving any special help. Among the many criticisms which the reader may wish to make about such school organisation and provision for poorer readers (even less help is often available for children poor in numeracy!) two will be stressed at this point. Firstly, that in such a setting remedial provision should not be the sole responsibility of a few trained personnel. It is surely a communal responsibility with the remedial staff playing a key role in organising, assessing and advising. Secondly, that such a negative approach to remedial work neglects the other aspects of reading ability which have already been mentioned, namely reading extension and development following on the attainment of elementary encoding and decoding skills. These abilities in higher order tasks are essential for the citizen of today as can be witnessed in the ubiquitous task of filling official forms many of which have ridiculously high readability levels.

What then can be done to enable an inadequate school system to fulfil its duties to the many pupils who

are potentially the students of tomorrow's adult literacy programmes? Several suggestions come to mind.

## Attitude Change

It is in the area of teacher attitude that much constructive work can be accomplished. In spite of the introduction of comprehensive education, Platonic philosophies – or at least a misconception of them – still dominate the school environment: learners are still classified according to their academic ability. Such classification in itself is neither good nor evil; it is what is done with the information thus gathered that may cause problems.

Firstly, many teachers appear to be unable to accept individual differences for what they are: we all know that in any area of human endeavour all men are not equally well endowed. What is insidious is the tendency to regard potential in some areas as highly desirable and to proceed to regard individuals with that potential as having greater personal worth than their peers. This attitude is certain to lead to the alienation of many pupils in our schools.

In our educational system the ability to perform well in externally devised examinations is a highly valued attribute. Since a high percentage of children do not succeed in this sphere, we run the risk of alienating large numbers of them. The work of Hargreaves and Lacey, for example, suggests that when teachers differentiate pupils on this basis polarisation is likely to result. In other words, teachers may be instrumental in producing pro- and anti-school groups. This is reflected in adult life. The fact is that we are afraid to make radical changes even with an out-of-date examination system. Why not, for instance, have 'Deprivation' as an accepted examination subject for inner city schools as a minor step towards a more relevant curriculum?

However any school curriculum which is dictated by the demands of the examination system will be inappropriate for many pupils. As suggested in the Munn report in Scotland there is an urgent need to identify a core area of knowledge which ought to be taught in schools. In an advanced technological society, the pan-sophia of Comenius is no longer an attainable objective. Presumably literacy and numeracy will form elements of that core.



In determining the core area, the local environment must be considered. Many years ago Whitehead in his concept of the rhythm of education stressed the importance of personal experience as a foundation for educational development. The fact is that many children bring impoverished experiences to schools and that consequently schools may have to compensate for this before the formal teaching of subjects can bear fruit. In literacy, it may be that the language experience approach to the teaching of reading will aid this process: for the child, it helps him to associate the new skill of reading with what is known, and for the adult it enables him to bring his own expertise to bear on his problem.

## Parental Involvement

The question of parental involvement in education has been debated at great length. Teachers often complain that the parents they would like to meet most are the ones who fail to attend open days, parent evenings and other school functions. Perhaps the problem lies in part, with the image projected by the school. Jackson and Marsden described graphically the working class parents' response to the grammar school parents' evening: it was, in essence, a confrontation with an alien culture. The advent of the community school may serve to bridge that type of cultural gap. Parents – particularly those who need educational assistance themselves – must be able to feel comfortable in the environment of the school. There is, of course, the question of teacher participation in this kind of extra curricular activity: to what extent is it 'part of the job'?

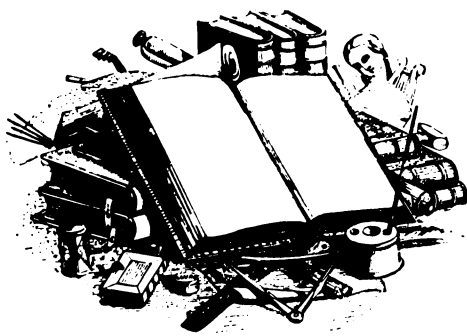
## Attacking the Problem

The adult literacy scheme instituted by the government sometimes tended to avoid the use of school premises for tuition – possibly because of the unfavourable image already discussed. There is no doubt, however, that the school has resources in terms of expertise and equipment which ought to be exploited by adolescent and adult literacy agencies. Furthermore, it would appear axiomatic that only good can come from consultations between those who teach literacy skills to pupil pupils and those who teach adults from the same arena.

## School-Adult Literacy Liaison

Perhaps the starting point for such ventures ought to occur at senior level. Many local authorities have appointed senior literacy organisers who have area assistants. The latter would seem to be ideally placed to liaise with the area secondary school. Indeed the area organiser is frequently a teacher from a neighbourhood school. The problem is that these tutors serve two masters – the local authority by day and the adult literacy organisation by night. However, if education is to succeed effectively, then surely it must be seen as a continuum. This pattern fits neatly with the concept of reading development as a continuous process; there are basic and higher order skills which must be taught. While schools may teach the former proficiently, it is patently obvious that the teaching of higher order skills is largely neglected. Both secondary schools and adult literacy organisations must face this problem. It is essentially a communal task – a point already stressed by the Bullock report – which must be tackled across the curriculum in the school context where teachers in all subjects must become more aware of the reading tasks they set their pupils. Outwith school it is ironic that the government which allocates money to assist adult illiterates frequently, in their own publications, creates further problems for them.

The basic aims of this paper have been to stress the necessity of liaison between remedial education and adult literacy and to emphasise preventative measures in this important area of education rather than to meet it when the situation is out of control. These objectives surely make sense on humanitarian, economic and educational grounds.



# Reviews



## Underfunctioning Children

**Psychology and education of slow learners** by Roy I Brown. Routledge and Kegan Paul (1976) pp 120, £1.95.

Now produced in paper-back format, this book was first reviewed in *Forum* Vol 19 No 2 Spring 1977.

To quote from the author, (p.3) it 'can be said to be concerned with the learning problems of a generic group . . . of persons, who, due to inheritance, injury before or after birth, or effects of social, economic or psychological deprivation, are under-functioning and respond to basic programmes of habilitation.'

In 120 pages, divided into nine chapters with such titles as 'Psychological growth in the handicapped' (9 pages); 'Skills for social living' (11 pages) it will be appreciated that 'these pages have only touched on some of the problems' and, as such, the book is very much an 'introductory text for those intending to work with slow learners.' At this level, and in conjunction with the bibliography and 'further reading list' it is of interest and some value to those seeking an awareness of the problems of children and adults with special education needs.

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## Schools make a difference

**Fifteen Thousand Hours. Secondary Schools and their effects on children**, by Michael Rutter, Barbara Maughan, Peter Mortimore, Janet Ouston, with Alan Smith. Open Books pp 279, £7.50, paperback £3.50

'Schools *can* make a difference' was the title of a special number of this journal in the spring of 1974 which took up various aspects of the matter – in the teeth of the frequent assertion that 'research has shown' the contrary. Five years on, as this issue is going to press, a research report comes to hand which, refreshingly enough, reiterates the point. This will 'come as no surprise to parents', it is noted in the introduction, even if there has been 'widespread acceptance among academics' that schools make 'little difference' in the light of a spate of previous findings, duly reviewed. In other words, research results may do little more than air scholastic preconceptions.

The investigation here reported, sponsored by the ILEA, focused on twelve inner city secondary schools and the careers of some two thousand pupils passing through them; a six-year longitudinal study incorporating methodological innovations discussed in several appendices. The team comprised (in the order of the names set out above) specialists in child psychiatry, social work and administration, educational psychology including experience of teaching, developmental psychology, with a supporting statistician. No sociologist proper, it will be noted, which helps to account for departure from the customary amalgam of mere quantification and outright assertion in favour of discerning qualitative differences and a modest presentation. This also goes for publishers whose first essay in this genre was some embarrassingly over promoted research into primary teaching. No nonsense here about the 'Rutter report' nor brandishing of finite conclusions, as against a

concluding paragraph indicating new questions now on the agenda.

The main finding – that the 'quality' of school life is of primary importance – is one that has been beyond the reach of standard psychometric techniques and sociological theorising. This may seem very obvious, it is conceded, but it should be remembered that factors which did *not* emerge as important in relation to successful outcomes – although often emphasised – were size of school, purpose built premises, single site, favourable teacher-pupil ratio, firm discipline, severe punishment of unacceptable behaviour, which helps to fill out the picture for the layman.

The ten 'conclusions' outlined may be summarised to indicate the nature of the research. (1) Schools investigated differed markedly in terms of the behaviour and attainments of pupils. (2) When variations in intake were allowed for such differences in 'outcome' persisted. (3) These remained reasonably stable over at least four years. (4) Different forms of success appeared as closely connected. (5) Differences in outcome were not significantly related to 'physical' factors such as buildings or size of school. (6) They *were* systematically related to the character of the schools as social institutions and to factors open to modification by the staff rather than fixed by external restraints; i.e. degree of academic emphasis, teacher actions in lessons, incentives and rewards, assignment of responsibility to pupils. With the proviso that a factor outside the teachers' control which does affect outcome, in terms both of examination results and delinquency rates, is the balance of the intake (7 and 8).

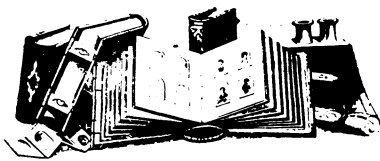
Here is the nub of the matter together with point (9) indicating a strong association between the combined measure of overall 'school process' (devised for the research) and each measure of outcome; i.e. the *cumulative* effect of various social factors was considerably greater than that of any individual one which implies

creation of an ethos characterising the school as a whole. Finally (10) the pattern of findings indicates a strong probability of a causal association between school process and outcome; i.e. children's behaviour and attitudes are shaped and influenced by experiences at school, notably a school's qualities as a social institution.

The discussion in the final chapter, suitably headed 'Conclusions: speculations and implications', then continues to cover various matters in more detail – group management in classrooms, the consistency of school values and norms of behaviour. If some answers have been proffered, it is said, new questions now press for attention – how are school 'climates' established? How did twelve schools in similar circumstances develop such differing styles, which in turn suggests more detailed examination of forms of management or leadership. How far are classroom teaching and curricular aspects linked with the 'school process' factors investigated?

Finally, if it has been suggested that causal connections have come to light, only studies of planned change in schools can identify mechanisms and causal influences with any certainty and these are now called for.

JOAN SIMON



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