

A Middle School Project for the Blind

As teachers we are all likely to find ourselves considering certain questions over and over again. How can I make my teaching more effective? How can I present the subject material in a more interesting and stimulating manner? Am I presenting my pupils with appropriate opportunities and how do these relate to the outside world?

As a CDT specialist in a 9-13 Middle School I approached Spring Term 1981 with these thoughts and many more in my mind. Two particular concerns were uppermost. Firstly, the pupils I taught were in the main from affluent homes situated in a most attractive area. Many were oblivious to the fact the privileges they shared with their classmates were not shared universally. They had little conception that many children are less fortunate and some are distinctly disadvantaged. Secondly having adopted problem solving approaches in my CDT teaching several years ago, I was increasingly aware that the problems posed, bore a doubtful relationship to the real problems of society. How could I provide a more realistic approach to this situation?

More immediate was the problem of what my fourth year (12+) form would present for their next School Assembly. It was traditional in school that each form should alternate in producing a Friday afternoon assembly. On the first day of term I happened to mention to my pupils that 1981 was the International year of the Disabled. I asked if anyone knew the significance of this. The response was both knowledgeable and enthusiastic. The next day several newspaper cuttings were brought and displayed on the classroom walls. Disablement became the subject of much discussion. One girl told us of the problems arising from her grandad becoming blind. By Friday interest seemed to have polarised on blindness. This was compounded by Monday when at 9 a.m. I listened to an account of how a man and his son had appeared on 'Match of the Day' having both recently undergone surgery to restore their sight. Their joy at watching a football match, having lived for years in darkness, was shared by my pupils. The question soon followed, 'Can we prepare our assembly on blindness?'

We listed as many everyday problems faced by the blind as we could and proposed to demonstrate how these are overcome. How do the blind tell the time, cross the road, recognise people or cope with shopping? A large model of a blind person's watch was made. Voices familiar to everyone in school were tape recorded. A telescopic white stick was borrowed.

The assembly was to be a form of test. Volunteers were taken from the audience, blindfolded and led to the clock where they would 'feel' the time. Voice recognition was tested in a similar way. It proved an interesting and at times humorous end to our week. The question 'Can we do some more about blindness next week?' was posed as the pupils departed.

Inspired by their enthusiasm I spent part of my weekend trying to trace a college friend who was

blind. Eventually a telephone call to Liverpool found him and despite a thirteen year gap in communication he greeted me warmly. During this time Frank McFarlane had become known internationally as a prominent worker for the disabled despite his own blindness. He is the European Delegate on the World Games for the Disabled Committee and Chairman of the British Association for Sporting and Recreational Activities of the Blind. I told him of our interest in blindness and we arranged to meet the following weekend to discuss ways in which he could help.

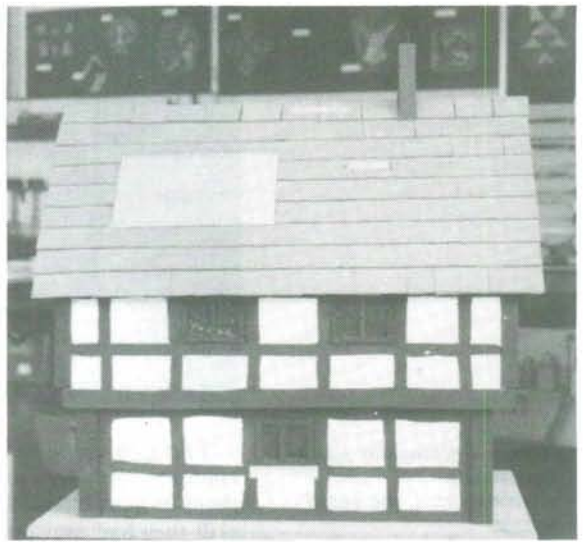
After consulting our headteachers it was decided my pupils should visit my colleague's school — St Vincent's School for the Blind, Liverpool, during the summer term. In the meantime we would design and make a range of toys, games and aids suitable for our hosts. We were particularly asked to produce cricket stumps suitable for 'blind cricket' played with a plastic football containing ball bearings on a hard surface.

Bearing in mind that St Vincent's is a residential school catering for 5-16 year old pupils who are blind or partially sighted we set to work. There was a strong feeling that residential pupils would need toys and games for use in the evenings. A group of girls produced some soft toys under the supervision of a colleague. A bagatelle board was brought from home and a modified design produced. Deeper holes were made so that a blind child may feel where the marbles have rested without fear of dislodging them. Panel pins were considered too sharp and dangerous to be used to make the pockets so wooden frames were made. Other work included a simple form of skittle table and some maze puzzles formed by grooves cut into hardboard.

In mid-July we travelled to Liverpool with some trepidation, little knowing what kind of reception either 'we' or our 'products' would receive. On arrival I entered the school alone in order to find where we should go. A long corridor lay ahead and about midway along I passed a blind infant moving confidently forward. 'Hello' she said, as she heard my footsteps. I replied in the same way and her smile was replaced by an expression of puzzlement. No voice recognition here!

We assembled in the hall together with a group of St Vincent's pupils of similar age. We were treated to some musical solos and an abbreviated performance of the school play. Our 'goods' were then handed over. Despite the great warmth of our hosts there was a noticeable reticence among my pupils. They were fascinated to see their work put to use but were uncertain how best to join in bagatelle or what conversation to make. Unfortunately lunch which followed was taken separately which did nothing to relieve the problem.

The afternoon began with a swimming match. This proved a significant turning point for here was an activity which transcended the specific disability for the St Vincent's pupils and acting as a physical equalizer, swept aside interactional inhibitions born



perhaps, from ignorance and fear, thus establishing the first tentative foundation of trust and understanding. It also became quickly apparent we had quite a match on our hands. The spirit of the occasion was typified by one of my largest (and sometimes least co-operative) boys who ran the length of the pool to assist a struggling and much smaller blind girl from the water.

A general knowledge quiz concluded the days activities and long before we departed all signs of ice had melted away. Importantly for me, I had been able to talk to the Headteacher and several staff about the school, its pupils and the need for educational equipment. Already plans for the following year were being formulated.

From the modest beginnings of 1981 a major project has grown and a tradition established. A wealth of sponsors have been found, most especially The National Westminster Bank through their Project Respond Scheme and the Queens Silver Jubilee Trust. As a result of their generosity, finance to cover the costs of materials and transport has not been a problem. Most of all there has been a seemingly infinite resource of enthusiasm from all concerned including staff and pupils of both schools.

In recent years events at Oldfields begin in January. Fourth year (12+) pupils are invited to participate in the Project. Liaison will take place with the St. Vincent's staff concerning what type of equipment or aids they are in need of. Preliminary design discussions may take place by telephone or by letter. The ideas are discussed with the pupils and groups will be formed to tackle each project. In some cases an individual pupil or a group may have an idea of their own they wish to pursue, rather than respond to one of the requests. A modified form of Mastermind was one such example. Most pupils will be at the designing stage by mid-February. Investigations take place, mock ups produced and discussion within the group is intense. My own role at this stage is perhaps best described as 'consultant'. Five years of involvement in designing for the blind has taught me a lot and I now regard our efforts in the inaugural year as being somewhat primitive.

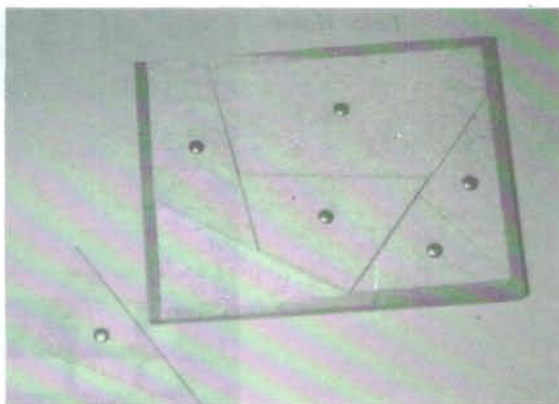
In late February those involved attend an evening meeting in school to which their parents are also invited. Frank McFarlane travels down from Liverpool to address the meeting on 'The Problems of being blind'. Pupils are able to question him on all aspects of the subject and also the design of their proposed work. In many cases a model or template will have been prepared for him to inspect and pass an opinion on. He is able to explain the exact use to which each item will be put. Those pupils about to embark on work based on their own ideas are able to check their validity. This sometimes leads to further communication with the St Vincent's staff. Pupils will write or send preliminary sketches asking for comments on the suggested sizes etc.

Another avenue which opens at this stage is the response of parents, many of whom are fascinated by their child's participation in the Project. Some become involved in the design of the work. On occasions, parents have helped by providing materials otherwise difficult to obtain.

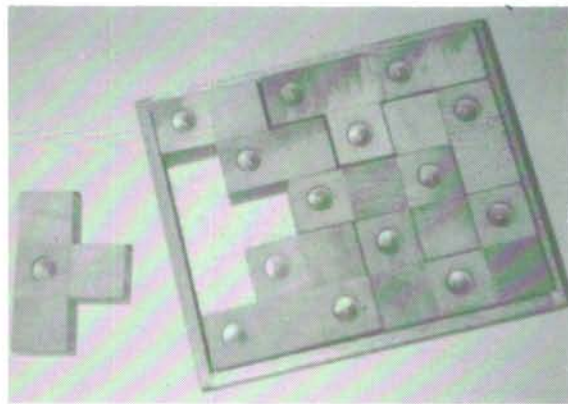
In 1982 we undertook to produce a model house. We were told blind children may have little conception of the form of the outside of a house. Our investigations led us to a decision to include as many special features as possible eg. TV aerial, individually made roofing tiles, ridge tiles, chimney complete with pots, porch, conservatory, fascia boards, gutters and downspouts. Careful considerations of scale were made. It should be large enough for a group of children to examine concurrently and also large enough for us to give authentic shape to a gutter or door handle. Too large may mean it occupies too much classroom space and is frequently stored away. Much of the construction was in chipboard and hardboard. Many opportunities arose for individual pupils to pursue a particular interest or skill they had experienced in earlier CDT lessons. For example, designing and constructing the TV aerial provided one pupil with the opportunity to further his experience of brazing. He was first required to produce sketches of TV aerial shapes from the houses near his home. Scale was then considered and a working drawing produced before construction began.

There was great concern about labelling. Each of the special features was named in braille. It was also felt that colour was important. A partially sighted child may be well aware of the form of the lower parts of buildings but remain uncertain what the roof may be like. If the model were to be used to overcome this, then an authentic colour scheme was essential.

This model became the forerunner of further 'houses'. The following year a model tudor house was produced with a view to helping blind pupils studying examination courses in history. In 1984 we moved from a model to the real thing and our largest single venture to date. A Wendy House was required to be used by 5-6 year old blind children as part of an outside play area. The project was an ambitious one and called for the formation of the largest group so far consisting of fourteen pupils. Sketches were produced, models made, plans drawn sometimes fullsize in chalk on the workshop floor. Materials were tested for strength and moisture resistance. Costings were carried out and safety factors considered. It was important that every feature of the design should be finalised before construction of such a large and expensive project began.



Above: Rectangular jigsaw type puzzle.
Above right: Cube based puzzle.



Two girls chose to design and construct the chimney pots. This presented an opportunity for them to gain further experience at woodturning, a skill they had previously enjoyed. They sketched several shapes from chimneys near to school and the final design was based on the Victorian chimneys of Oldfields Hall itself.

Three boys opted to construct the windows. They investigated traditional methods and modified these to suit our requirements and their own skills. Softwood frames were jointed to a hardwood sill. Acrylic sheet was preferred to glass.

Nine pupils worked on various parts of the main shell. This was made mainly of exterior plywood. Felt tiles were used on the roof. Plastic guttering and downspouts were added. The whole house was assembled on the stage in our hall and coachbolted together.

On the hottest day in July we took it apart and loaded it into a Transit Van to be driven by my workshop technician. The pupils and I made the journey north in a mini-bus.

Erection on site proved more difficult than we expected. The base, formed from existing concrete slabs, was uneven. Doors, which had fitted perfectly in school were now sticking. By mid-afternoon all such problems were solved. St Vincent's Headteacher, Sister Josephine, performed the task of placing in the position the final chimney pot. Half a minute later the building was 'alive' with excited blind infants, their eager fingers racing round every feature. Curtains were drawn, furniture examined and re-arranged. The resilience of the whole structure was given a very thorough test. Amid this forere stood the pupils who had constructed the house. Children of all abilities, some of whom achieved very little accolade or sense of purpose in academic pursuits. All stood silently

now, embraced by unspoken gratitude, not for what they had 'produced' in tangible terms, but for the thought and understanding behind its conception.

Looking at their faces, I knew they were savouring a moment in their school life that was very significant and would always remain with them.

This marked the conclusion of the work for that particular year. The Autumn Term is a period when the Project lies dormant, something I find very welcome. New impetus is needed each February and this is so much easier when other design situations have taken preference for a time. A new year group of pupils are ready to give their abundant enthusiasm and perhaps a fresh slant to the Project. They await eagerly requests from St Vincent's and are overflowing with ideas as to how the work may be tackled.

On hearing from Mr McFarlane that St Vincent's pupils include several who have recently become blind many Oldfields pupils have considered the problems such unfortunate events will produce. It is recognised that other senses would be useful. Such thinking led one pupil to produce a 'Match the sounds' puzzle. Short lengths of aluminium tube were filled with a variety of solids eg. rice, small stones, sand, dried peas, marbles etc. and sealed at each end. Each tube would have an identical partner and by shaking each the tubes could be paired up. Puzzles of a similar nature have been produced aimed at development of the senses of touch and smell.

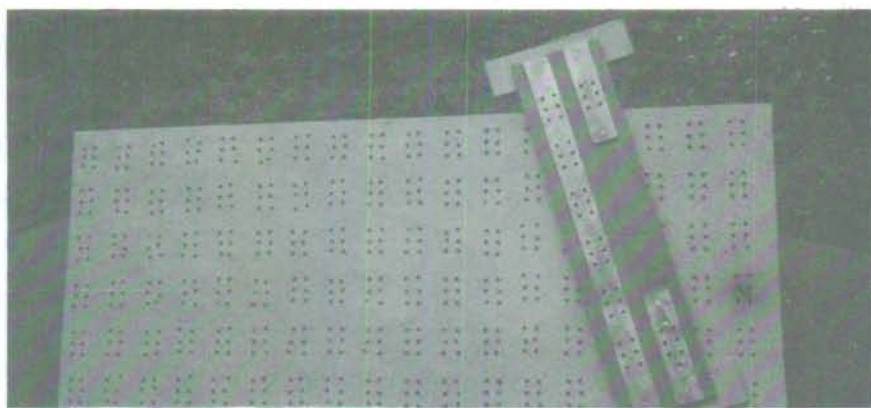
Much work has been carried out involving the use of braille. Rivets have been found to be an effective medium for conveying braille letters and numbers. A variety of Mathematical aids have been produced, some based on the 'magic square' theme where cubes of wood, depicting braille numbers, fit into a tray.

Braillette boards, consisting of 20 x 6 empty cells were produced last year. Each cell consisted of six holes drilled accurately into the board. Rivets were supplied so that a child in the early stages of learning braille can set up letters or words on the board in this very large form of braille before tackling the real thing.

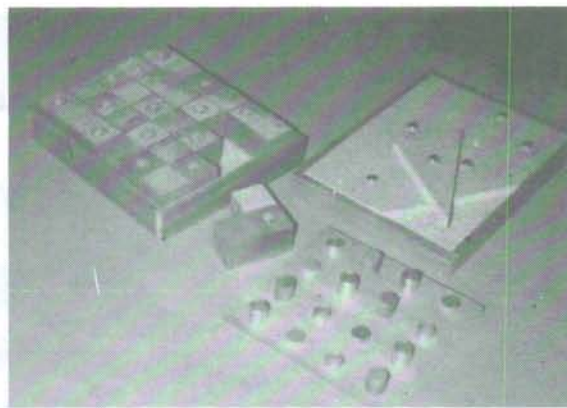
Teaching groups at Oldfields Hall are mixed ability. I have frequently found less able pupils to be enthusiastic participants in the Project. It has not been difficult to direct the most able pupils towards very demanding work. Similarly, those with learning difficulties have played a full and important role by working on tasks appropriate to their needs. This point is illustrated in the photograph showing three shape puzzles. In design and construction the demands made on the child producing the 'cube' based puzzle were much greater than either of the others, especially the rectangular jigsaw type puzzle shown.

Two further group projects which illustrate the point that the work can be appropriate to pupils of all abilities were our Plan of Dieppe and our Motte





*Above: Braillette Board. Jig used in construction.
Above right: Three shape puzzles.*



and Bailey Castle. The Eclair French Course, used at both Oldfields and St Vincent's, includes a section on the town of Dieppe. A plan is shown in the textbook on which we based our model. The tasks involved were very varied in complexity ranging from the intricacies of constructing a model sports stadium to the more simple task of road building. A model railway engine was needed as the symbol for the station. This provided an excellent opportunity for a boy who had already shown a talent for lathework to extend his knowledge.

The Motte and Bailey Castle offered a similar range of tasks. One able pupil spent much of his time producing a series of working drawings. He was then able to disseminate this information to other pupils. While his work involved the skills of investigation, calculation and graphic

communication in great depth, the tasks facing some other members of the group were less demanding and yet vital to the success of the work.

Many participants in the Project prefer to work individually or perhaps in pairs. Some prefer to act on their own initiative, developing their own ideas, rather than responding to a specific request from St Vincent's. Two girls were interested to know whether the blind are aware of the differences in shapes and sizes of common leaves. They approached Mr McFarlane on the subject. The answer indicated that freshly picked leaves in summer are a good guide to texture and can indicate shape, but soon wilt. Teachers at St Vincent's attempting to inform their pupils of this concept can find themselves restricted to whatever type of tree is immediately available.

Delighted to find there was a need, Helen and Samantha discussed various possible solutions. Leaf shapes carved in wood perhaps? How will they be identified? How many should be attempted and which type ought to be included? After a great deal of discussion, experimentation, sketching and a little despair the solution shown was realised — aluminium sheet, hardwood stand and Braille labelling.

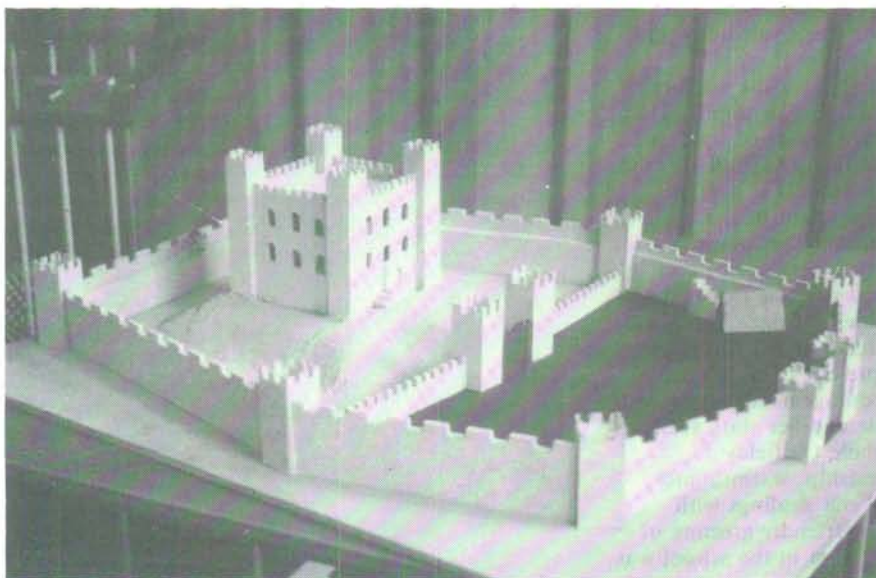
As with most of the work this aid is equally suited to the partially sighted and the totally blind. St Vincent's has many partially sighted pupils. They may have vision for short distances in good light, thus our house and castle models may have extended their knowledge of the world beyond the limitations of their sight. We have always paid attention to colour and sharp contrasts may have been helpful. Our recent cricket stumps are always finished in brilliant white.

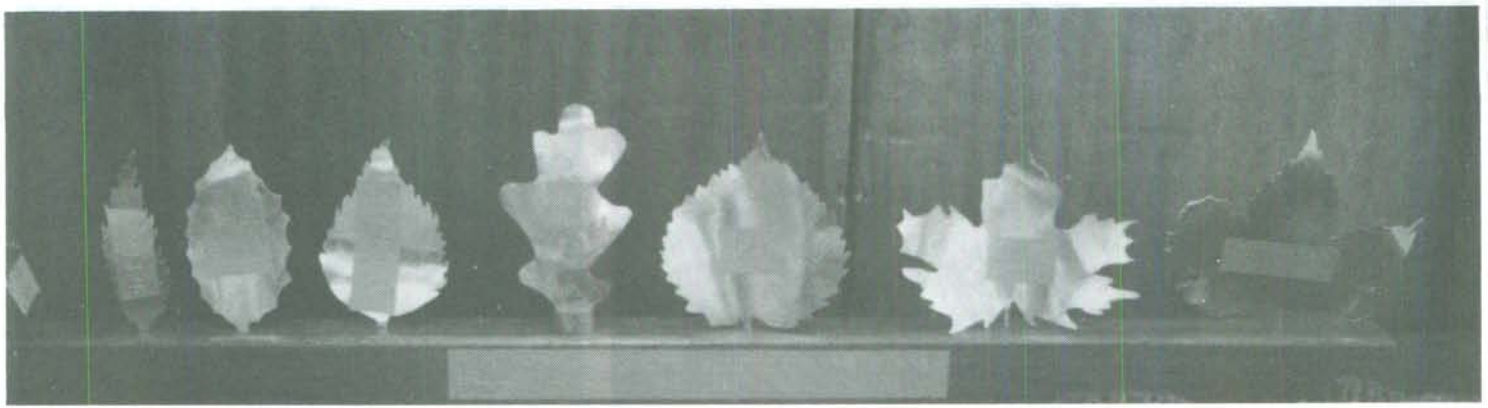
It is an important feature of the Project that all taking part at Oldfields should be given the opportunity to meet their peers from St Vincent's. For the past two years the sheer size of numbers involved at Oldfields (70-80) has meant it is a more practicable proposition to bring the St Vincent's pupils to Staffordshire. The 1985 visit involved the largest number of pupils in both schools to date. It was an exciting prospect for all concerned. It was also rather daunting as there are many obvious problems and potential dangers of putting blind children into a strange environment. The solution demanded a mature and caring response from the hosting pupils.

At eleven fifteen we greeted our guests and accompanied them to the hall. From the outset there was a very obvious feeling of warmth and friendship. Inhibitions disappeared. A typical example was the large Oldfields boy who took the arm of the small St Vincent's girl guiding her round the dangers of the kerb. Christian names were quickly learnt and joviality became the order of the day.

With everyone gathered in the hall, six months of designing and constructing came to fruition when each group of Oldfields pupils presented their work.

*Below: Part of Dieppe plan.
Bottom: Motte and Bailey Castle.*





Above: Leaf shapes reproduced in aluminium.

Excitement levels were high as finger tips found their way round Norman battlements or along a Dieppe street. For the makers it was the moment of truth. Would the intricacies of the leaf shapes be too much for those without sight? There were moments of great satisfaction, a feeling of a job well done and a reassurance that all had been worthwhile.

A buffet lunch followed, prepared and served by Oldfields' pupils under the direction of our Head of Home Economics. The afternoon began with a joint musical concert. This was followed by a General Knowledge Quiz. Departure of our guests was a sad moment. In five short hours friendships had been made and addresses exchanged. It was a great tribute to both sets of pupils that the day had progressed so successfully.

Although this moment marked the end of the Project for another year, memories remain. Lucinda, aged 13 saw the day in this way: 'One of the things I shall remember about the St Vincent's children was how polite all the children were. I think I was one who noticed this most as I was one of the girls who served and made the food. For example one little boy called David who was totally blind asked us to escort him to Mrs Blore so that he could thank her personally.

Another thing I shall remember was how quickly the blind children mixed with us. I personally, thought that it would take at least ten minutes for them to start talking to us, but on the contrary, as soon as they jumped off the bus we were all chatting happily to each other.

I think everyone was a little bit sad when it was time for the St Vincent's children to go. All the Fourth years went outside to wave them off. Quite a few of us were a little saddened by a little boy called Jonathan who was totally blind. He had been taken around the school by Simon Cooper, he kept banging on the window, Simon looked a little bit sat too.

We all thought it was a very enjoyable day and would welcome all the children back again'.

As the Project has grown so have the number of staff involved and also the number of pupils. The soft toys, begun by a willing member of staff in 1981, have become a regular feature. Similarly, the musical involvement of both schools is now an annual occurrence. The commitment of the Oldfields Head of Art has meant that much of the work has benefitted from the experience of two specialist teachers of practical subjects rather than resting entirely on the shoulders of one. These and many other Oldfields staff have joined forces to promote the Project to its present level. We have received a great deal of encouragement, advice and thanks from Sister Josephine and her staff at St Vincent's. Above all, the whole Oldfields community have found friendship, warmth and sincerity in abundance in all our dealings with everyone at St Vincent's. The friendly greeting of the infant the first time I set foot in the school was certainly a sign of things to come.

For the past two years we have been joined in our efforts by the Head, staff and pupils of a nearby First School. They have produced a wide variety of items including equipment based on identification through touch, smell and sound. They also tape recorded a story and made finger puppets of the characters. The pupils involved ranged from 5-9 years.

Evaluation

Hundreds of teacher hours and thousands of pupil hours are spent on the Project. Use of both the human and physical resources requires justification. Measuring the success or failure of the Project cannot be achieved by test or examination. We are left with more subjective judgements. Are the pupils enthusiastic and purposeful in their work? Are appropriate demands made on their mental as well as physical capacities? What effect does the Project have on the social and moral development of the child?

One small but perhaps significant indication came to my notice in March 1985. A large group of fourth year pupils from Oldfields had visited London for three days. On the return journey shortly after leaving St Pancras I was invited to join a group of pupils gathered in a compartment. In their midst was a blind lady. She offered her gratitude to me for the help the pupils had given her. As she had made her way cautiously along the platform, white stick in hand, they had offered assistance, helped her on to the train and into her seat. Perhaps their involvement in the Blind School Project had contributed to their thoughtful actions?

*Photographs by S.G. Lewis
(Head of Art, Oldfield Hall Middle School)*