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Word Processing with Infants
Publishing Yourself *Typesetter!*
Music Computers across the Curriculum
Concept Keyboards **National Curriculum**
Background Graphics for Logo Activities

Contents

Concept Keyboard gets good reception from five-year-olds <i>Sheila Wilson</i>	1
Word processing with infants <i>Yvette Blake</i>	5
Background graphics for Logo activities <i>Stuart Duke</i>	10
Making a start . . . on the National Curriculum <i>Kath Marlow</i>	15
The pleasures and pains of publishing <i>Sue Senior</i>	20
Three terms of <i>Typesetter!</i> <i>Simon Hill</i>	22
The music computer as a cross-curricular resource <i>M.J. Perrier</i>	24
Reviews: What is PIP? <i>Gill Westbrook</i>	28
Hardware	29
Software	30
MAPE administration changes	31
MAPE news	32

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MICRO-SCOPE 29

Concept Keyboard gets good reception from five-year-olds

Sheila Wilson

Alban Wood Infant School, Watford, Herts

Until a year ago I had neither seen nor touched a Concept Keyboard. For at least two years I had listened to my husband wittering on about them (his expression, not mine!), and other friends had also spoken enthusiastically of their experiences. Recently after a long break I returned to an infant classroom, and signed up for the first Concept Keyboard course I could find. My headteacher also attended the course.

The course – all 90 minutes of it – included some ‘hands on’ time, and we began to see some of the potential benefits for the school. The head agreed to add a Concept Keyboard to the school’s shopping list, and I began the process of working out how I would eventually use it in my reception class.

When the keyboard finally arrived after the necessary fund-raising, and the usual long wait for delivery, I had worked out exactly what I wanted to do in the first instance. The appropriate overlays were made, and the board entered daily service. But not without a few anguished moments. . . .

At school we use ‘Breakthrough to Literacy’ alongside colour-coded reading books. Each child has his/her own exercise book where the teacher writes sentences incorporating her/his new words from the ‘Breakthrough’ list. Each child also has a personal ‘Breakthrough’ folder so that s/he can build her/his own sentences.

Before proceeding I need to make a couple of definitions. The word ‘overlay’ is normally used to describe a composite which has two parts – the piece of paper that fits onto the Concept

Keyboard and the piece of software that translates key presses on the Concept Keyboard into text inside the computer. I need to distinguish between these two parts. I will call the piece of paper and what is written on it a ‘grid’. I will call the software the ‘overlay code’.

I decided that my first task would be to try to prepare an overlay having all the words in the Breakthrough folders, using exactly the same pattern on the grid as is used in the folders. Some would argue that to have so much programmed onto an overlay was contrary to a sensible philosophy of Concept Keyboard use, as it defeats the simplicity one is aiming to provide. But, as will become apparent later, although the whole set of Breakthrough words is in the overlay code, initially only a few words are physically written on the grid, and words are then added gradually. Those familiar with Breakthrough will notice from the diagram overleaf that I nearly achieved the layout I wanted (see Figure 1).

You will also notice that I decided to omit ‘s’, ‘es’, ‘ed’, and ‘ing’. I chose to do this because I felt that the children need to be aware of the fact that they have access to the QWERTY keyboard as well. For the same reason I planned that the children use RETURN, SPACE, DELETE and COPY on the QWERTY keyboard from the beginning. So before introducing the Concept Keyboard, we used small programs which used these keys until the majority of the class knew where to find them and were able to name them. It was important for them to know the names as

home	mum	dad	television	bed	baby	am	is	are	was	were	will	be	been	can	
brother	sister	boy	girl	children	friend	do	did	work	make	made	read	write	paint		
teacher	school	picture	story	book	house	have	has	had	come	go	came	went	said		but
morning	night	day	time	birthday	party	play	walk	run	jump	skip	watch	see	saw		
cat	dog	shop	car	a	the	and	very	want	got	get	sleep	kiss	love	like	cry
pretty	big	little	good	bad	naughty	some	yes	no	?	.	not	for		of	there
happy	new	all	lot	this	I	my	they	down	up	by	on	to	in	out	at
you	me	it	we	our	he	him	his	she	her	why	because	when	what	with	after

Figure 1

well as the functions of the keys because I wanted to be able to name a key and then send a child to the computer to help other children who were stuck. I also knew that I wanted simple sentence-making overlays which would include pictures of some of the vocabulary the children need for their sentence makers.

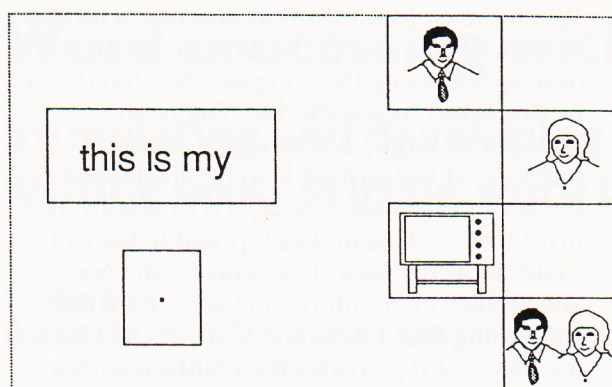
Using *Folio*, I began to program an overlay, but ran out of space after entering about half of the words. *Folio* does not set aside sufficient memory for storing so much data. I tried *Concept/Writer* with the same result. Then I found that *Prompt3* and *Prompt/Writer* allowed me to do what I needed. Additionally, overlays prepared for one can be used by the other. *Prompt* is therefore now my choice of word processor for a reception class.

Having programmed my master overlay into the computer, I then produced a number of empty grids. We started with one empty grid in the classroom. As we added words to our large class folder and to each child's personal sentence maker, I wrote the word in the correct place on the empty grid. This meant that the children could take the grid to the Concept Keyboard and have available just the words they could read without the confusion of a mass of unknown vocabulary. As the words on the class grid began to fill up the slower readers had problems finding

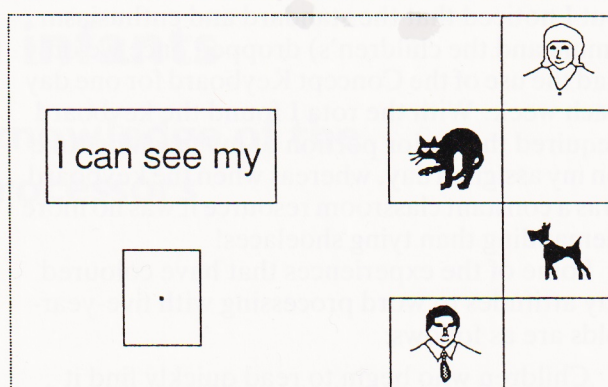
the words they knew, so I started individual or group grids for them.

When the children are beginning to learn to read, I use the six overlays reproduced below (see overlays 1–6) to help them to understand sentence construction. The knowledge of the concept of a space between each word does not have to be shown when using these overlays, but I always require it when my class use the master overlay. However some of my colleagues do not feel that the children should be required to add their own spaces at this stage so I have coded two master overlays which contain the same words; one has a space programmed after each word and the other one does not.

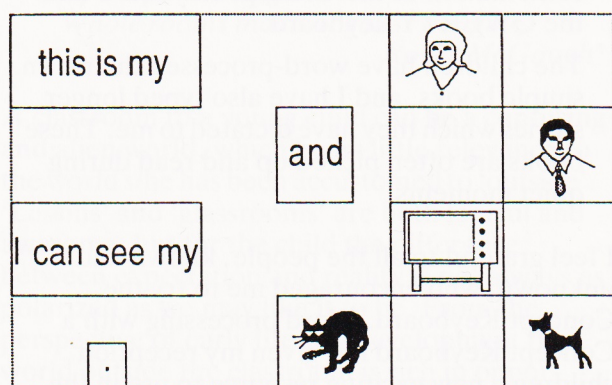
As you look at the grids opposite you will notice the progression of vocabulary that I have chosen to use. The children pictured in number four represent 'boy' and 'girl'. In number five, 'little' and 'big' are introduced. The boy and girl in number six are different from those in four and five because they represent 'brother' and 'sister'. I feel that if I were to make more Breakthrough overlays I would be working counter to the spirit of the scheme. Not all children need to experience all six overlays. Some are ready to use and enjoy *Elmtree Farm* or *Moving In* (both Blue File) at an earlier stage. These offer flexible ways of sentence making,



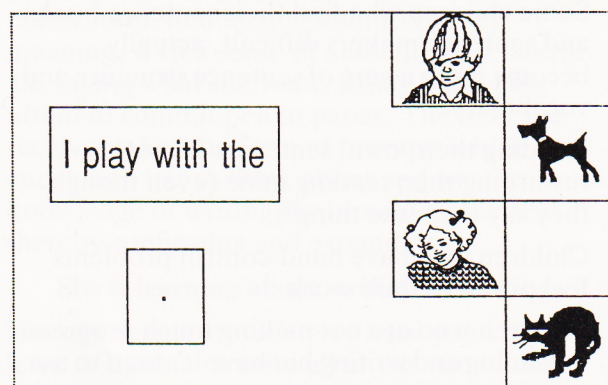
Overlay 1



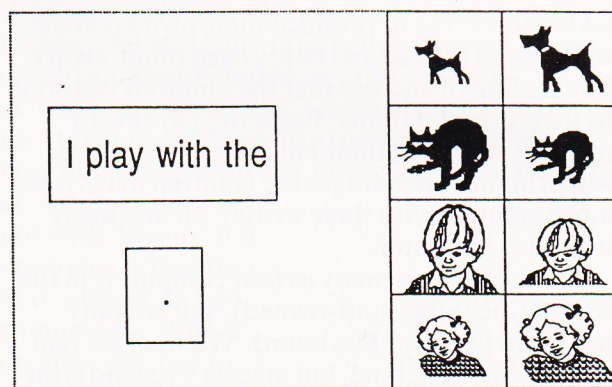
Overlay 2



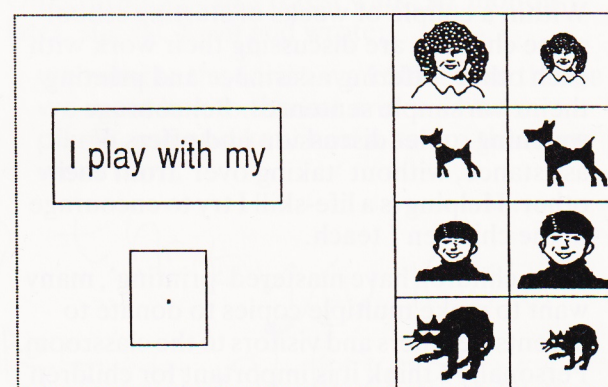
Overlay 3



Overlay 4



Overlay 5



Overlay 6

and demand good sentence structures. I also use the master grid (with all of the Breakthrough words written in) as a word bank for children who have learned all of the words, and more, to enable them to make rapid progress in their personal writing.

So far I have successfully used this method with my reception class and with special needs top infants. For the latter, I personalise a grid for each child. As with all other approaches to reading and writing, the children progress at

their own speed, and the availability of the Concept Keyboard has a marked effect on progress. While I was piloting the use of the keyboard, it was constantly available to the children I was teaching, as I could plug it into my own BBC that I was using in the classroom. Soon other teachers felt it would be a useful resource for their classes too, so it was plugged into a school BBC and shared between four classes. Those of us who were on the rota were pleased with the work the children produced,

but I noticed that the standard and enthusiasm (mine and the children's) dropped once we only had the use of the Concept Keyboard for one day each week. With the rota I found the keyboard required the major portion of my teaching time on my assigned day, whereas when the keyboard was a constant classroom resource it was no more demanding than tying shoelaces!

Some of the experiences that have coloured my attitudes to word processing with five-year-olds are as follows:

Children who begin to read quickly find it satisfying to be able to express themselves in writing as well.

Some children who find their sentence books and sentence makers difficult, actually become more aware of sentence structure and vocabulary.

Reading their 'own' sentences is more rewarding than reading mine (even though they say the same thing!).

Children who have hand-control problems feel proud of their work.

Children who are not making much progress in reading and writing but have learned to use certain computer keys become class 'experts', giving help with loading discs, deleting, printing work etc.

Within a couple of weeks of starting school some children are discussing their work with each other, offering assistance and printing their own simple sentences. I encourage watching, quiet discussion and offers of assistance, without 'taking over' from each other. Helping is a life-skill I try to encourage in the children I teach.

Once children have mastered 'printing', many want to make multiple copies to donate to parents, teachers and visitors to the classroom. Personally I think it is important for children to learn the art of giving as well as receiving.

When the children want to describe a model that they have made, they ask me to print the description using the computer so that it can be displayed by the model. 'Big print', medium or large, is very useful for this purpose. If the writing is to be displayed on the wall I often use *Concept/Writer* with 'Big print size 5'. This makes it possible for us to 'read the walls' as a class, and reinforces vocabulary in an interesting way. I am not suggesting that I need the Concept Keyboard for this, but it provides the children with a model of what can be done. I expect them to progress to making their own notices, using a combination of the Concept Keyboard and the QWERTY keyboard.

The children have word-processed their own simple books, and I have also typed longer stories which they have dictated to me. These books are often picked up and read during quiet moments.

I feel grateful to all the people, known and unknown, who encouraged me to try the Concept Keyboard. Word processing with a Concept Keyboard has given my reception children a new exciting resource to use in the classroom. I do not believe that it should supplant my previous approaches, but as an extra classroom resource it gives the children an added incentive to produce their own creative writing and to read and enjoy each other's work. The feeling of success that the children transmit to their proud parents, helps the parents to respond by giving their children extra praise, which in turn encourages the children to become more creative with their writing on and away from the computer.

There can be as many as four computers in the school (including staff-owned), but we only have one Concept Keyboard. We wish we had one for each machine, but at least a second is on the latest shopping list.

Sandwell LEA has set up an organisation to bulk-buy technological equipment and consumables and pass on the resulting price benefits to schools. Many things from batteries to glue guns, from washing-up bowls to computers, from wheels to wood can be obtained from them. The organisation is called **Sandwell Science & Technology Shop** (or SSTS for short) and the address is: Sandwell Education Development Centre, Popes Lane, Oldbury, West Midlands B69 4PJ (tel: 021-552 3373). Any educational establishment in the country can be supplied, payment by requisition, cash or cheque. If any readers are interested please ring or write for a catalogue.

Mike Compson

Word processing with infants

Stimulating and developing knowledge of the writing process using word processors

Yvette Blake

Cobbs County Infant School, Warrington

What does a lessin look like?

Sounds small and slimy

They keep them in classrooms

Whole rooms made of glass. Imagine.

*Roger McGough**

A classroom to a young child can be a confusing and alien world, which bears little relevance to the world s/he has been accustomed to 'outside'. 'Lessins' and 'glassrooms' are both fearful and awesome, but for the child the difference between expectation and reality is not always as polarized as we may like it to be. From the perspective of early literary development the world outside the classroom is rich in opportunities to view and interact with print. In a classroom where print is accorded this status and children are permitted to extend the knowledge they may have already acquired about it, in a meaningful and truly interactive manner, the opportunities to engage in print-related activities are abundant. Given also an environment rich in challenging experiences, children may find themselves not in a 'glassroom' but an actual classroom, and not with 'lessins' but experiences that they find interesting and stimulating. With a creative teacher to intervene sensitively in this situation children perceive themselves to be literate.

Given the above circumstances, this is an example of what one four-and-a-half year-old decided to write, in the classroom writing area, where she had chosen to be:

mummy thought we
go in a spaceship and we
had a nice time we
like it in the spaceship
the cat came with us

As a result of her experiences this child really enjoys writing and is actively engaging with print. She is using writing as a means of communication, finding purpose, to convey meaning, with a sense of audience and, above all, saying what she wants to say, not being afraid to commit pen to paper. The help she receives takes the form of prompts which encourage her to think about and use the knowledge of writing she already possesses, thereby confirming and expanding it.

She is learning about writing by writing.

Her comments are 'It's very hard you know, I have to think and write all at the same time!'

Make word-processing facilities part of this environment and the results are potentially dynamic

On returning from a forest walk, six months later, she sat down and wrote:

we went to the forist. we kolekt sum things
we went bak to the kar and we had a
piknik. me and katy had a askim then we
went hom.

(Translation: 'Mummy thought we could go in a spaceship and we had a nice time we like it in the spaceship and the cat came with us').

Having used the computer this time, she later added 'Dear . . .' and 'love from . . .' and sent off several letters to friends. She was well pleased with the whole exercise and received much feedback when the replies flooded in.

The traditional approach would have been for the child to tell the teacher the information and then copy what was written down for her. This however negates the child's own knowledge of the writing process and merely engages him/her in a secondary activity. In short this becomes a handwriting exercise rather than the opportunity (for the child) to display his/her understanding of writing in such a way that the recipient is able to detect what that understanding is. For example when the child in this case creates the word 'kolekt' it tells us a great deal more about her knowledge than would the copywriting exercise.

Introducing a computer into a classroom has several advantages in encouraging the development of literacy skills. At the earliest stages it supports and emphasises the status of print by merely offering the children a different presentation of letters. This fulfils the dual purpose of having the 'correct' version of the letters around and simultaneously demonstrating that these serve a purpose. It provides what few other classroom situations are able to engender in quite the same way: the opportunity for children to discuss, argue and make decisions about the text that they want to create.

Not all our children have been fortunate enough to benefit from a philosophy of emergent literacy in their earliest writing experiences. Traditionally children have been viewed as a product of a teacher-dominated education system. They have been learners in the context of a situation that systematically teaches. With regard to the teaching of writing, emphasis has tended to concentrate on end product. A teacher may have set a writing activity, discussed possible ideas for content and then not have intervened again until the task was finished. During this writing time her role was often controlling the spelling queues! The feedback to the child usually took the form of written or spoken comment on performance in completing the task with some consideration of surface changes. These frequently embraced more issues than the child could successfully grasp at one time. It is a fundamental tenet of this research that young children are learners in a far more interactive way and as a result of this must be granted opportunities to be active participants in the whole process of authoring texts. Using word processing is an integral part of this experience. It can be seen as a way of allowing children to

manipulate language and generate texts that are appropriate in style and content for the intended purpose, in an interesting and flexible way.

This research began with the hypothesis that wordprocessing facilities would offer young children an opportunity to develop a greater knowledge and understanding of all that was involved in the writing process than may normally have been expected of them, given the more traditional methods of teaching writing. Twenty, six- to seven-year-old children were involved in this research which took place throughout one year. They worked both within the classroom situation and in writing groups outside the classroom. Initially the use of one computer was available to them (later two), together with the wordprocessing package *Prompt/Writer*. Having experienced the more traditional approach described above the children often demonstrated a rather narrow perception of what writing was all about. They were generally unprepared to invest much time and effort in a task that was frequently repetitive in style and format. They had little concept of drafting, revising, refining, editing, purpose or audience. Many had reading abilities far exceeding their written output, others wrote safe, rather predictable texts in order to be acceptably 'correct'. Others wrote just enough to 'get by' so that they could begin the next activity. For this group of children word processing was the tool, the bridge that offered them the opportunity for experimentation in a non-threatening, non-pressured environment.

The nature of the intervention in the writing process, the use of wordprocessing facilities and provision of a highly literate environment were fundamental elements of this research which began with the premise that children are looking at overall cohesion in a text. They are active in creating a text which is cohesive in a variety of ways. Coming to cohesion in an interactive way involves them in utilising information they already possess to present a text to their audience which adequately conveys their intention and is not cumbersome or overburdened. Text handling and editing are highly important features of word processing and children have to realise what is available to them if they are to extend and develop their writing in a meaningful way. The facility to separate out the composition and transcription elements of writing unhindered by pressures of time encourages children to study their writing and consider elements of cohesion. This research concentrated on semantic, lexicogrammatical and surface cohesion.

Using wordprocessing facilities provided the opportunities to:

1. identify areas where cohesion is lacking;
2. enhance the cohesion;
3. re-assess in order to create a completely cohesive text.

Semantic cohesion

For the purposes of the research a text is taken to mean a passage of any length, that forms a unified whole and has texture as opposed to being a series of unrelated sentences. The concept of cohesion is a semantic one referring to the relations of meaning that exist within a text. In the initial stages semantic cohesion was seen as predominantly important. Young children in the context of classroom writing often produce work lacking in this area of cohesion. The semantic link between one element of text and some other element that is crucial to the interpretation of the first is often confused or absent. This may arise because young writers assume that their audience, traditionally their teacher or other classmates, share the same knowledge or experience as themselves. This is particularly relevant if they are all pursuing the same task and have received the same initial input. As a result of this underlying assumption they frequently produce sentences which may appear unrelated or where the cohesion is not obvious. Some of the required information remains in their minds and is not found on paper! When questioned by the teacher a common response is 'but you know what I mean!'

In this research a high degree of audience awareness was seen as a pathway to developing semantic cohesion in a manner that encouraged peer group expertise, reduced reliance on the teacher and encouraged independence. Most young children assume that what they intended to say is in fact what they have written. It is often very revealing for them to realise that their audience may not be so clear as to what they mean or in fact may want more information. At this stage children are refining and clarifying information, looking at descriptive content and narrative structure, prior to publishing their work.

Example 1 is an extract from a story two six-year-olds wrote about the adventures of Squeaky Mouse. They knew that writing it on the computer would bring their work into the public domain and that it would be scrutinized by others.

From *Fun at the Fair*
Draft One.

one day Squeaky saw a sign on a tree. so he ran home to tel his mummy and daddy. and they said yes you can. Squeaky kept asking when is it time to go to the fair evry so often. mummy said after tea. the time came. and they went to the fair and mummy said you can only have three goes.

Another group of children who were familiar with the character of Squeaky but who were not present at the discussion preceeding this story were given a copy of this draft. After reading it through they were encouraged to question the authors concerning anything they felt required clarification.

These were the questions asked:

1. What did the sign say?
2. What did his mum and dad mean by 'yes you can'?
3. What do you mean by 'you can only have three goes'?

Questions one and two showed that for these children the cohesion between the sentences was insufficiently clear. This surprised the authors who felt that all the information had been provided. A remedy for this was easily achieved.

One day Squeaky saw a sign on a tree. It said come to the fair tonight at 6:00 till 12:00. So he ran home to tell his mummy and daddy. They said yes you can go to the fair.

Not so easy to resolve was the third issue. The authors found it hard to explain orally exactly what they meant and the audience were very unhappy with the ambiguity of 'mummy said you can only have three goes.' Finally after much heated discussion a compromise was reached and a substitution made. 'Mummy said here is some money but it is only enough for one go on three different things.' I felt that the sentence 'Mummy said here is some money to spend at the fair' would have made the whole issue less complicated and cumbersome to explain. The children felt that the issue of 'three goes' was vitally important and had to be explained right at the beginning of the story. Later in the story we discovered which three 'goes' he had!

This vividly demonstrated that the value of the computer in this situation had been to facilitate the discussion. Without the emphasis,

in the classroom, on critical appraisal the end product would have been vastly different.

In this second example the children had been encouraged to choose their own topic for writing. Several children chose to write stories with familiar characters.

From *Superman*
Draft One:

Once upon a time there was a man called Superman and one day Superman was watching his TV and he saw a bridge falling and he changed in to Superman he zoomed to earth and he got his laser eyes out and he fixed the bridge. the people were very pleased with him.

It was very revealing for this author to find that his audience had greater subject knowledge than himself and in fact had very definite expectations from a Superman story.

Questions and comments from his peers included:

1. Why did Superman change into Superman if he was Superman already?
2. How did he change into Superman?
3. You can't take eyes out can you?
4. Did his eyes mend the bridge?
5. Why was it important that the bridge was mended?

Much discussion ensued as the author obviously had not made the connection between Clark Kent and Superman. His second draft clarified issues 1, 3 and 4 but his audience were adamant that any worthwhile Superman story must include a description of how he changed into Superman. After all on television this is a visually exciting moment. In his final version this issue was resolved.

Superman
Final Version:

Once upon a time there was a man called Clark Kent. One day Clark Kent was watching his TV and he saw a bridge falling. He quickly changed in to Superman. He went behind a wall and pulled his clothes off. His Superman costume with his magic cloak was underneath. He zoomed to the bridge. He fired laser beams from his eyes and he fixed the bridge. The people were very pleased with him. One day Clark Kent died and never came alive again and he went to heaven.

It is interesting to note that the question of why

Superman needed to mend the bridge so urgently (which was asked by me) remained unanswered despite several discussions between us. Obviously peer group pressure took precedence.

Repetition of information is another area where overall text cohesion is seriously affected and many children fall prey to this. In one notable example over 200 words in part two of a story contained the same information as in part one. After discussion with the author the 200 words were reduced to 50. As she was working on the computer there was no heart-breaking crossing out. She was able to circulate copies of both drafts among colleagues to discuss and decide which was most appropriate for the reader.

Lexicogrammatical cohesion

Although the grammatical links or alterations in vocabulary between sentences are used to make reading easier and less cumbersome it is important to stress that these changes do inform the meaning. Cohesion *is* in essence semantic; other changes serve to clarify this. Adding descriptions, deleting repetitions and considering the appropriateness of the language chosen are important here.

The following example is typical of the problems arising out of descriptive writing.

From *Booboo*
Draft One:

My monsetr looks like a nice monsetr. he has blue eyes and a pink nose and a pink mouth and pink cheeks as well he has a frilly collar to. and pink blue and green sequins on his tummy and his tail as well he has got straight red hair and a blue bow he hasnt got any special features on its face it hasnt got scaly skin it is multi coloured. it has wings as well it has a small body and it walks it hasn't got eny arms.

Although the author was initially resistant to change, her words in fact were 'I've read this through and I like everyone of my 'ands'', the group she was working with thought otherwise. This writing was to be displayed as part of a competition whereby the readers had to match descriptions and pictures. The object of the competition was to have as many winners as possible, therefore the writing had to be highly readable! Intervention here was to help the author to achieve this, not to be highly critical

nor to rob her of ownership. The group discussed the issue of sentence starters, the use of pronouns, the overuse of 'and' together with the possibility of combining sentences. The final version goes some way towards addressing these issues, at least the sex of 'Booboo' is finally determined!

Booboo

Final version:

My monster looks nice and friendly. She has blue eyes, a pink nose and mouth and pink cheeks as well. She has a frilly collar around her neck. Pink, blue and green sequins sparkle on her dress and on her tail. She has straight, red hair with a blue bow. She hasn't got any special features on her face. She hasn't got scaly skin, it is smooth and multi-coloured. She has green fluffy wings and a small body but she hasn't got any arms.

Surface cohesion

Given the opportunity to experiment with the use of appropriate punctuation young children come to appreciate its importance in informing the meaning of the text. With word-processing facilities, punctuation can be considered as it becomes relevant for each child. S/he is able to address one issue of punctuation at a time which helps to focus attention and increase knowledge.

Consider the following example:

From Squeaky's Picnic

Draft One:

Violet was struggling to keep afloat
Ted jumped in to rescue Violet Ted swam
to where Violet was using breast stroke
Violet held on to Ted's back while he
swam back to the bank.

The children inserted capital letters and full-stops and were very surprised to find that their immediate audience, in this case myself, still had problems with their intended meaning. I could not understand why, if Violet was using breaststroke, she was still struggling to keep afloat. After a few intense moments the solution dawned as a complete revelation. A comma was what we needed!

From Squeaky's Picnic

Final Version:

Violet was struggling to keep afloat so Ted jumped in to rescue her. He swam to where Violet was, using breast stroke. She held on to Ted's back while he swam back to the bank.

Obviously these six-year-olds would not use commas confidently and consistently from that day forth. However an insight into the reason why we punctuate was brought home in a particularly cogent and relevant way. It is possible that such an opportunity may have been missed had we not been editing prior to publishing. During the course of the year some children also investigated the use of exclamation marks, question marks, speech marks and the use of the apostrophe. Several of these explorations were at their own request. The issue of spelling may also be addressed here. Easy editing facilities encourage the use of invented spelling or experimentation with spelling. Often children know more letters in a word than they think they do. One child consistently wrote 'code' for 'could'. When word processing he (unprompted) changed 'code' to 'coed' to 'could' and was then satisfied. Also, when reading a printout, it is easy for a child to underline words s/he feels may be incorrectly spelt, especially since the problem of incorrectly-formed letters is absent.

Considerations

All aspects of cohesion are interdependent and interrelated. Although the children concentrated on the three areas mentioned, progression was not seen as necessarily linear nor mutually exclusive. They worked on many levels dipping in and out of composing and editing mode, finding a method of working which suited them. Avenues for exploration were suggested, not prescribed.

Conclusions

Many of the issues discussed here are being carried out successfully in classrooms devoid of computers. However writing can be a long, hard, time-consuming process. Word processing is only one of the tools that will help achieve the final objective. Its unique facilities and their ease of use enable really young children, inspired by a

sense of purpose, to invest considerable time and effort into the production of high quality work. It is a powerful, flexible, writing tool which can support the cognitive processes involved in planning, writing and revising texts. Valuing that process together with the removal of time pressure encourages the development of both composing and transcribing skills in an independent yet complementary way. This situation was highly motivating and the motivation did not diminish over time. A high number of 'visits' to the text were frequently recorded and generally writing improved considerably in both quality and length. At the close of the project the children were again invited to choose their own subject material. Many chose to develop stories begun much earlier in the year. As these were all stored on disc they were easily accessible. Like Solzhenitsyn they discovered that writing is never really finished. Word processing allowed them to come even closer to the real writing that adults do and many were able to tackle work normally associated with older children. Writing is meant to be read and the ease of obtaining hard copy at every stage encouraged access to a wide variety of help and fostered a high degree of interaction. A pool of expert knowledge developed and authors knew they could request help from different colleagues according to their individual needs. At its best, word processing can broaden and extend the range of experiences we offer our children whilst heightening our expectations of them. The power of the computer combined with the new insights into writing provide dynamic opportunities for learning.

Implications

Word processing is not in itself a panacea to the teaching of writing. Its introduction into the classroom should complement both the writing philosophy and environment and should be sustained throughout the children's time at school, working side by side with pen and paper. Encouraging children to be active participants in their learning means we must know our children, be sensitive to their needs, specific in intervention and learn to live with some of their decisions! In this way the child's sense of ownership and pride in his/her work remains intact. Adopting an advisory role ensures that the concept of 'correctness' does not prevent experimentation and individual development in writing. By nurturing a true sense of authorship and control over their work children will be confident writers who will grow in experience and maturity through active participation. Scarcity of this resource means careful decisions must be made as to when, and how it will be used and who will use it. The advent of Local Management of Schools, National Curriculum requirements and the wide variety of machines at increasingly competitive prices may encourage the acquisition of a range of dedicated machines. The children may even be offered the 'real' computers that adults use!

* The opening quotation is taken from 'In the Classroom', Cape, 1976.

Yvette Blake undertook this research as part of her M.Phil studies at Manchester University.

Background graphics for Logo activities

Stuart Duke
Dudley LEA

At a recent Saturday morning course run by the West Midlands group entitled 'Let's go with Logo', two teachers from Staffordshire showed us examples of their work using RM Nimbus Logo in integrated topic work across the primary curriculum.

Picture, if you will, the following scenes on a computer screen:

A spider moving between two brown trees, line by line making its web, white against a scenic blue and green background. . . .

A sailing ship navigating a course through waves of cyan, blue and green crested with white spray, heading for a harbour of grey stone. . . .

A pirate bold, moving purposefully around a sand-gold treasure island strewn with palm trees, boulders, mountains and caves, following his/her instructions to find the buried treasure. . . .

A rocket ship hurtling across a star-field strewn with planets, asteroids and other spacecraft, leaving an exhaust trail behind it on its journey back to Earth.

Logo activities?! Yes, the spider, ship, pirate and rocket are all Logo turtles, and the impressive backgrounds are all graphics produced on the same computer but *not* using Logo.

On the RM Nimbus this extremely useful combination is straightforward using the *PaintSpa* graphics package and a 'gallery' utility which allows the previously-created pictures to be loaded on to the Logo screen.

Question: But what about BBC users with Logotron Logo?

- (a) we can't make our turtle into a spider or a pirate etc., and
- (b) we can't load graphics screens in Logo!

... or can we?

Answer: Well, yes and no.

- (a) No, you can't have 'sprites' (turtles whose shapes can be defined by the user) *unless* you have an expensive 'Sprite box' attached to your micro ... but
- (b) Yes, you *can* load a picture onto the screen and use Logo turtling 'on top of' it.

Question: But how do we create the picture to use as a background and how do we load it onto the screen in Logo?

This was the crucial question for us BBC users! It was the consensus that it *could* be done, but with what, and how, still remained unanswered.

A couple of drawing/graphics programs were later investigated; *Image* from Cambridge Software and *Picture Builder*, now published by NCET.

Image is a simple yet sophisticated graphics package which has been used extensively in my LEA by primary and secondary pupils. It enables Mode 2 style (medium resolution) pictures to be created in eight colours. A variety of input devices are supported and it also has a very useful utility enabling the pictures to be saved as a 'screen dump file' on disc.

This is what we will need to load onto the screen before using Logo.

Picture Builder is a more straightforward program in which the user creates pictures using a set of basic geometric shapes which can be stretched, squashed, rotated and coloured in. It uses Mode 1 (fairly high resolution) graphics but has only four colours, including the background.

Before I go into the specifics of using these programs in conjunction with Logotron Logo on the BBC series of micros, there are a few general points to note concerning the Logo end of the proceedings.

The following set of steps could be used with any screen dump file produced from a graphics program or a screen capture program:

After starting Logo with ***LOGO**

1. Select the appropriate graphics mode using **SETMODE n**
(n will be 0, 1, 2, 4 or 5 depending on the graphics software used to create the picture).
2. Install any utility program which you may require (from the Logotron Utilities Disc).
e.g. use **"uSDUMP** if you intend to print out a screen.
3. Select the DRAWING screen (as Logo starts up in the TEXT screen), using **CS (CLEAR SCREEN)**
4. Hide the turtle using **HT (HIDE TURTLE)**
5. Make sure you have the disc containing the screen dump file in the current drive.
(Master 128 and Compact users also select the correct Disc Filing System for this disc; ADFS/DFS.)
6. You are now ready to **LOAD** the picture onto the screen using ***LOAD picture 3000**
(where 'picture' is the filename of the screen dump file).
7. Clear the text area at the foot of the screen as this may well have been obscured by graphics, using **CT (CLEAR TEXT)**
8. Reveal the turtle using **ST (SHOW TURTLE)**

You are now ready to turtle on top of your background picture!

So, the basic commands needed are:

```
*LOGO
SETMODE_n
CS_HT
*LOAD_picture_3000
CT_ST
[_ = space]
```

N.B. If you clear the Logo work (CS) you will also clear your background. Similarly, if you go to the Logo editor and return to drawing, the background will need to be loaded afresh.

To help facilitate this you could define a procedure to perform the necessary commands in one:

```
i.e. TO_SCREEN
CS_HT
*LOAD_picture_3000
CT_ST
END
```


Now by typing **SCREEN** you will clear your current graphics and replace them with a fresh background.

If you have a series of backgrounds on your disc why not define a series of procedures to automatically load each one when needed?

```
i.e. TO_SCREEN1
      CS_HT
      *LOAD_bkgpic1_3000
      CT_ST
      END

      TO_SCREEN2
      CS_HT
      *LOAD_bkgpic2_3000
      CT_ST
      END
```

etc.

Save these as a Logo file on your disc and load them into Logo *after* the SETMODE command. You can then call up each screen with one word when required.

If you possess screen-capturing software like *Screenthief* or *Snatch*, you will doubtless have realised the potential for using screens other than those you could create yourself using a graphics package.

However, I would not recommend that you 'capture' screens from any copyright software for use as backgrounds for Logo work as this may well infringe copyright and would therefore be unlawful.

Hints for using *Image* to make your background pictures

Start the program in the usual way. After the title pages you will be faced with a square black drawing area. Now follow these steps:

1. Make a frame the approximate size of the Logo drawing area so that your design will all be seen.

To do this select **SHAPE** from the left menu and make a white outline rectangle as shown in Figure 1.

You will be shown the screen co-ordinates if you use the keyboard **ARROW KEYS** to position the corners, rather than a mouse or trackerball etc.

2. Create your picture within this frame.

Don't use **COLOUR SERIES** or re-order the colours in any way as they revert to their logical order in the screen dump file (unless you are familiar with redefining colours in Logo!).

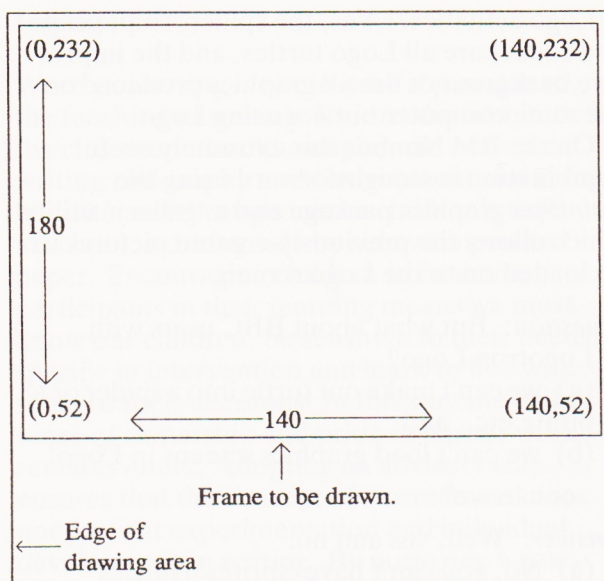


Figure 1 Dimension and Screen Co-ordinates for frame to be made in Image using **LINE RECTANGLE** within **SHAPE** option. (Mode 2 graphics pixels are two times wider than high.)

If you intend to move the turtle with its pen down over this picture, it is wise to restrict your picture to seven colours, leaving one for the turtle's pen.

3. Put your picture onto a page in the **SKETCHBOOK**. Make a note of the page number you use.
4. Now boot the **SKETCHBOOK** disc in drive 0.
Hold **<SHIFT>** and press **<BREAK>**.
The first picture in the book will be displayed.
5. Select *your* picture.
 - (a) by 'turning pages' (use right arrow key) or
 - (b) by selecting the page number; press f1 and reply to the question at the foot of the screen:
go to page ?
6. Once your picture is on the screen make a screen dump file.
To do this, press red key f4 to select the **SAVE A SCREEN** option.
Follow the on-screen prompts. In reply to the question at the foot of the screen:
save screen ?
type the filename you wish to use for your picture (max 7 letters) and then press **<RETURN>**.
Remove the sketchbook disc and place your Logo files disc (or a blank formatted disc) into drive 0.

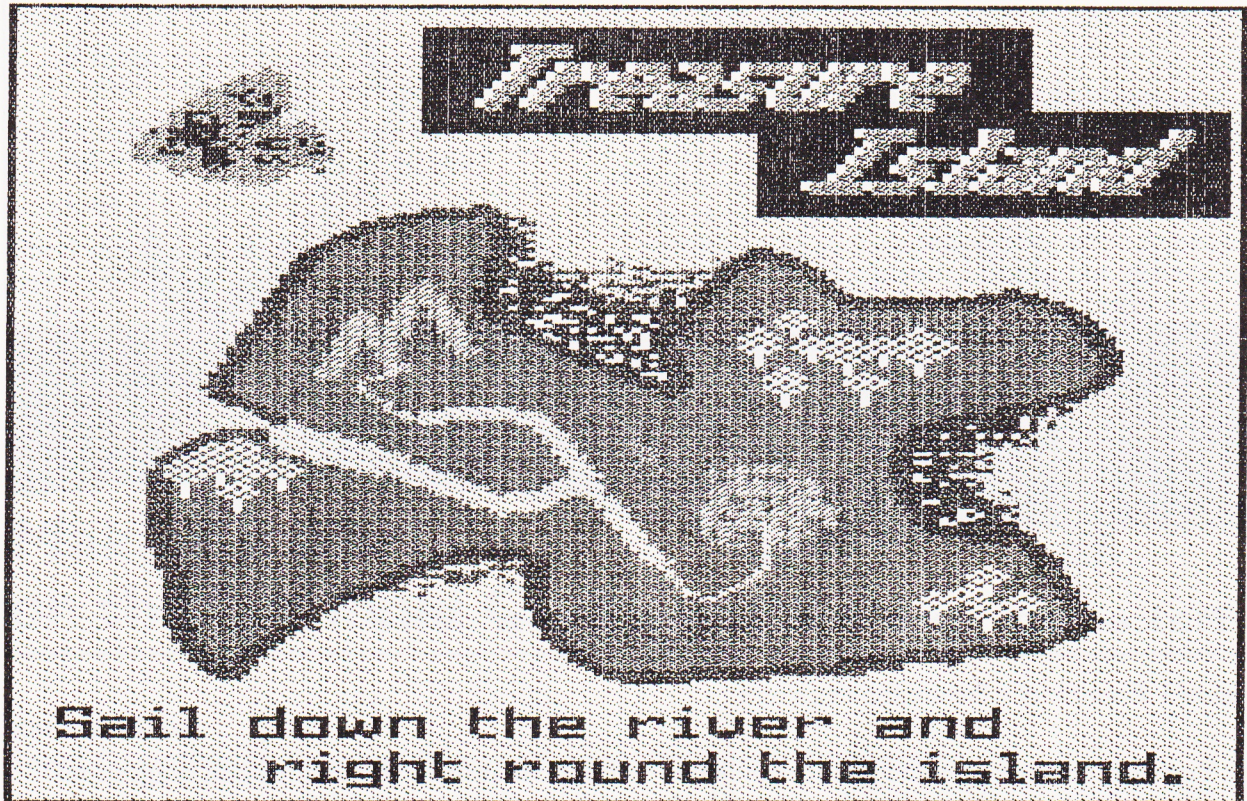


Figure 2 Example of an Image screen. (It looks much better in colour!)

7. When this process is complete you will be prompted to replace the sketchbook disc. Ignore this; you now have your screen dump file ready to create an original background for Logo 'turtling'.

Note, however, that the picture you have just made is not exactly the same dimensions as the Logo drawing area. The height should be just right if you started with a frame (see Figure 1), but there will be small gaps either side where the turtle can leave the background.

8. Before proceeding you will need to exit from *Image Sketchbook* by performing a 'hard break':

hold down <CTRL> and
press <BREAK>.

9. The procedure for loading the picture is described above. For this specific *Image* example the commands would be:

```
*LOGO
SETMODE_2
CS_HT
*LOAD_picture_3000
CT_ST
```

Hints for using *Picture Builder* to make your background picture

Start the program in the usual way. After the title pages you will get the colour choice screen.

Now follow these steps:

1. Press <C> to continue *without* changing the default colours (unless you are familiar with redefining colours in Logo!).
2. Press <space> to get to the drawing screen.
3. Create your picture.
Use only three colours if you intend to use Logo with the turtle's pen down. This will leave you one colour for the turtle's pen.
4. When your picture is complete, save it onto the program disc:
press <S>
then <Y> in reply to the question
then type a filename for your picture (max seven characters) followed by <RETURN>.
5. When saving is completed the drawing options will reappear.
Press <ESCAPE> twice to exit the program.

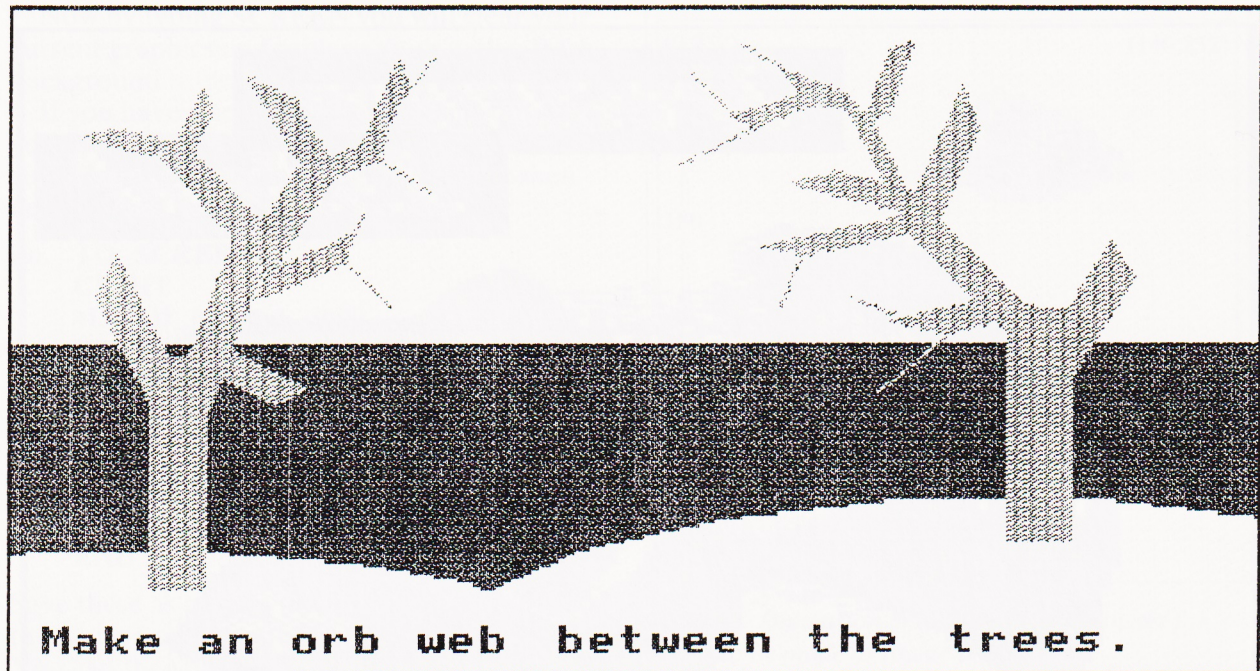


Figure 3 Example of a Picture Builder screen.

6. You now need to copy the picture you have just made to your Logo files disc (or a blank formatted disc).

For a single disc drive using DFS the procedure is as follows:

Place the *Picture Builder* disc in the drive. This is the source disc.

Now type:

***COPY 0 0 picture**

and press <RETURN>

(where 'picture' is the name you typed when saving the picture in step 5 above).

Have your destination disc ready and follow the screen prompts.

7. You are now ready to use the picture as a background in your Logo work.

Note, however, that the picture created by *Picture Builder* is slightly smaller in height than the Logo drawing area. Therefore you will find small spaces at the top and bottom where the turtle can go off the background. The width is exactly right.

8. The procedure for loading the picture is described above. For this specific *Picture Builder* example the commands would be:

```
*LOGO
SETMODE_1
CS_HT
*LOAD_picture_3000
CT_ST
```

I hope that these procedures and suggestions will be of use to any BBC micro users frustrated by the plain black backgrounds so often used in school Logo activities.

The use of attractive, stimulating backgrounds should enable imaginative teachers to create environments for 'turtling' which can integrate more easily into primary topic work.

Why not get the children to design their own backgrounds on *Image* or *Picture Builder*?

Many of us BBC users will be stuck with our slow and limiting 8-bit technology for a few more years. However, with easily-produced background graphics we may yet be able to get away from 'Logo for Logo's sake' activities. Work cards with 'make the turtle draw a square', which many first-time 'turtlers' might otherwise encounter, could be made obsolete.

Postscript – Changing colours in Logo

If you have created a picture using other than the default colours then you need to change the colours Logo uses in order to recreate your picture correctly.

I have found the best way to do this is to use a 'colourswap' procedure.

To do this, load your picture in the way described above, then, while you have the picture to refer to, create a Logo procedure as follows:

```
TO_COLSWAP
VDU_[19_0_n_0_0_0]
VDU_[19_1_n_0_0_0]
```

up to VDU_[19_3 . . .] for Mode 1

and to VDU_[19_7 . . .] for Mode 2

where each n needs to be a colour number selected from this list:

0-black, 1-red, 2-green, 3-yellow,
4-blue, 5-magenta, 6-cyan or 7-white

After the list of 4 or 8 VDU commands don't forget to finish with

END

Check that the colours are correctly swapped by typing **COLSWAP** and then save the procedure on your disc containing the picture files.

i.e. **SETMODE_1** (*Picture Builder*)

or **SETMODE_2** (*Image*)

COLSWAP

CS_HT

***LOAD_picture_3000**

CT_ST

* * * *

Picture Builder is part of the 'Design: Words and Images' pack from NCET. The latter sell a subset of this pack which contains the documentation and software for three programs (*Cartoon*, *Picture Builder* and *Patterns* – all modified versions of earlier releases). The pack is available from MESU Publications, Hoddle, Doyle and Meadows Ltd, Old Mead Road, Elsenham, Bishop's Stortford, Hertfordshire CM22 6JN at a price of £12.50 (order ref 051/S).

Image is available from CUP, The Edinburgh Building, Shaftesbury Road, Cambridge CB2 2RU, (tel: 0223 312393) for the BBC B 40- and 80-track and Econet. The price is £45.00 (£80.00 for Econet).

Making a start . . . on the National Curriculum

Kath Marlow

Team Co-ordinator, Pentland Primary School, Billingham, Cleveland

Like all teachers with responsibility for Year 1 children, during the last summer term our school's team 1 teachers began preparing schemes of work to meet the National Curriculum requirements. Each term our school's four working teams prepare a team topic incorporating educational objectives, classroom experiences to cover the range of curriculum areas, resources to be used, and recording sheets. Using this topic approach our team of five teachers prepared and trialled a 'National Curriculum'-based topic using learning objectives from the English, Maths and Science documents, with reference to the programmes of study.

Our team had three main concerns with the design of our topic:

1. to combine the cross-curricular objectives in a relevant way with purposeful educational links in comparable developmental stages;
2. to introduce and maintain the topic in an interesting and motivating way;
3. to develop the topic so that it was manageable in the classroom and children's learning could be assessed and recorded.

We decided to use an adventure program *Albert's House* as the starting point for our topic. We had used the program before and knew that it offered tremendous scope, and the children found it enjoyable and challenging. In the program the children have to search a house for a mouse called Albert. The program has three parts to it. The first part which has no text

allows the children to search the house by 'opening' doors, cupboards, etc by placing the cursor on the handles. The second part introduces the children to the use of words which will help them to search in a variety of places, eg under, next to, behind. The third part (which we did not use) involves the children in creating their own 'find the mouse' scenes. Using the program we planned the curriculum activities we wanted the children to cover (see Figure 1).

The activities described above related to the following

ATTAINMENT TARGETS

English: AT 1 Speaking and Listening,
Level 1,2; AT 2 Reading, Level 1;
AT 3 Writing, Level 1,2
Maths: AT 11 Shape and space, Level 1

From talking about Albert the children began to talk quite naturally about their own pets. Some were brought into school, and pictures and pieces of writing were produced. A Concept Keyboard overlay to use with *Stylus* was produced which helped the children with their writing (Figure 2). The children also made a database about their own pets using an amended version of the program *Yourfacts*. The children collected their data on illustrated sheets to help with the problem of limited reading and writing capability (see Figure 3). Each child then transferred his/her information into the computer.

Year 1

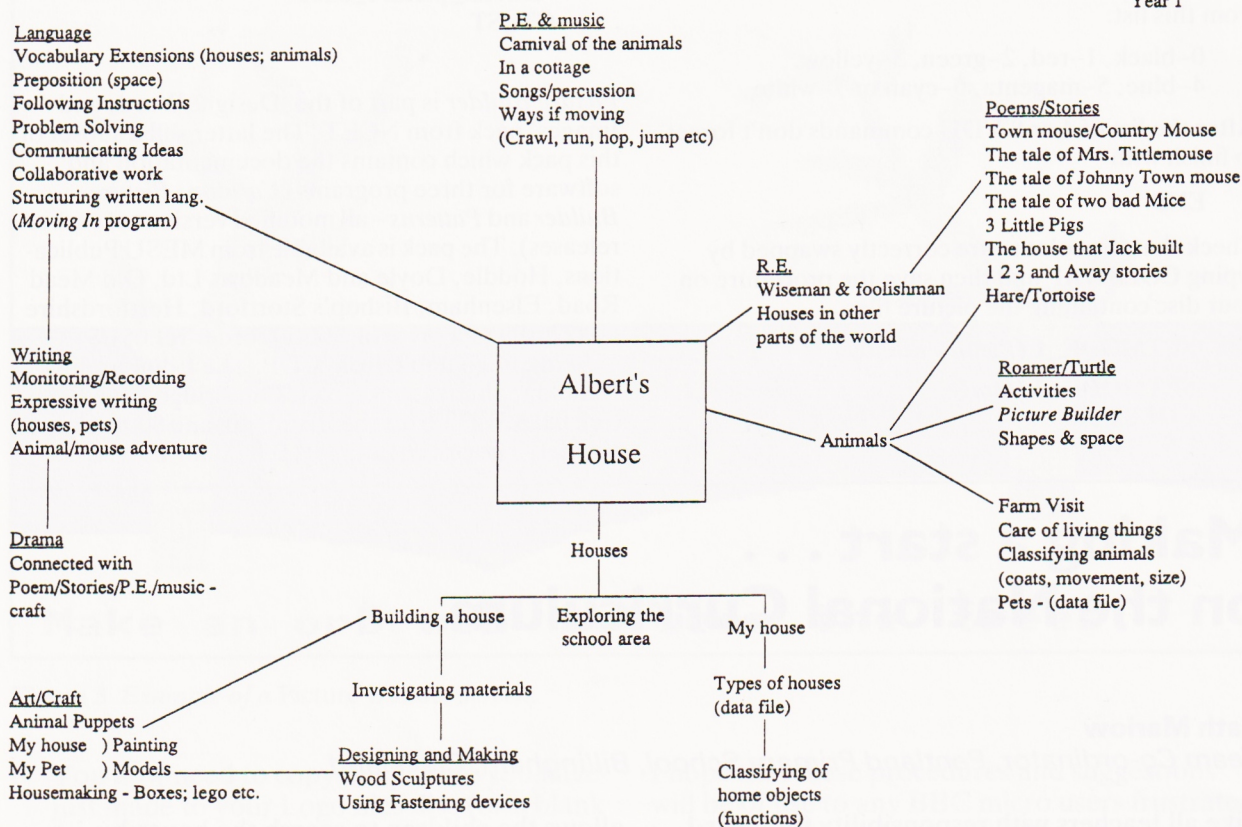


Figure 1 Flowchart for Albert's House.

Albert's House Topic

Year 1

Write a story













 Albert	 house	 cheese	run	hide
 cat	 hole	 tail	away	chase
 mouse	 garden	 whiskers	Find	Frightened
 box	 shoe	 grass	safe	Found

Figure 2 Example of overlay.





Data Collection sheet	Your Pets	
Name Lisa Love	Boy	Girl
 a cat	Yes	No
		No
 a goldfish	Yes	No
	Yes	
 a dog	Yes	No
		No
 a budgie	Yes	No
		No

Figure 3 Illustrated data collection sheet.

After looking at pets we hired pets from an 'Exotic Pets Library'. We asked for several animals with differently textured skins for the children to touch and observe. The animals included a rabbit, an iguana, types of snakes, chameleons, and of course different types of mice. Every child, even the most timid, stroked and touched with great enthusiasm. There were mixed feelings from the staff! The discussions which followed included the classification of animals by different criteria, and searching through books (with parents helping in the class) for information about food, homes and movement. The children used a floor-programmable toy called 'Pip' which they 'dressed' as a creature, and programmed it to explore the space

and measurement of various classroom and corridor areas.

ATTAINMENT TARGETS

Science: AT 2 The variety of life, Level 1,2,3;
AT 6 Types and uses of materials, Level 1,2,3
Maths: AT 8 Measures, Level 1,2; AT 11 Shape and space, Level 1,2; AT 12 Handling Data, Level 1,2,3

Leading on from the discussions about animals' homes the children talked about their own homes. They were taken out into the area surrounding the school to look at different types of houses and the different materials used in construction. The children quickly grasped the terminology terraced, semi-detached, bungalow etc. and they took photographs and made a reference book of the houses which could be seen around the school. Designing and making activities followed as a logical progression. The children started with junk materials to investigate designs. They used *Picture Builder* as an aid to planning 2D house 'pictures' made from wood and other suitable materials (Figure 4).

This involved the children in measuring and handling appropriate tools. From here some



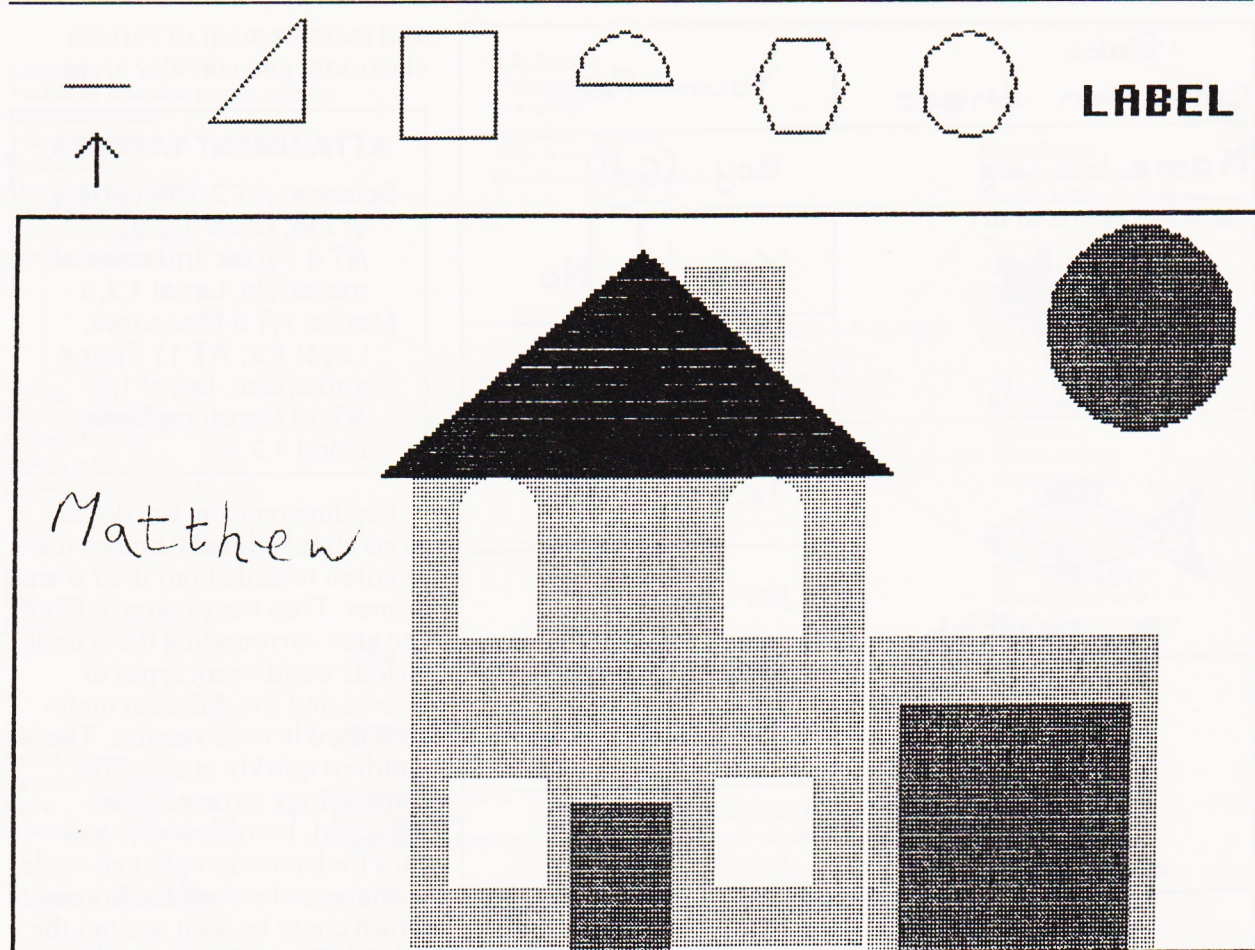


Figure 4 House designed with Picture Builder.

children progressed to making 3D models. One of the main problems they encountered was joining and fastening things together. When the models were made the children then discussed the strength of the walls: could they be higher? Could better materials be used? Houses for specific purposes, in particular castles, were very popular and the children enjoyed writing about the subject (see Figure 5). Commercial materials available in the classroom suddenly became the ideal materials for house building! Lego, Clix, polydrons, etc were transformed into houses of varying shape and size. The children arrived at the solution of alternating courses of bricks for added structural strength. One group discussed 'how to go round a corner' and after a great deal of trial and error managed to solve the problem, and passed on their expertise to other children.

Several science investigations followed involved 'testing' of a range of construction materials (eg tiles, bricks, wood) for strength, absorbency, pliability. The children also investigated all the ways they could find to fasten two objects together (eg rubber bands, paperclips,

glue, plaster, zips) which produced some highly original and artistic models.

ATTAINMENT TARGETS

Design and Technology AT 1;
AT 2; AT 3; AT 4; All at Level 1

I have given a very brief outline of some of the activities covered within the topic. The flow chart indicates many other activities which were developed covering a variety of curriculum areas and attainment targets including a significant amount of the IT attainment target described in the June 89 report.

ATTAINMENT TARGETS

Information Technology, Levels 1,2,3

The recording of the activities undertaken by the children and the level they reached was covered in two ways.

Albert's House Topic Year 1

Material Investigations







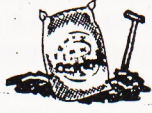

rough	hard	 bricks	 nail	plastic	mix
smooth	light	 wood	 slates	build	stick
heavy	sharp	 pipe	 glass window	straight	hit
water	empty	 cement	 sand	wall	roof

Figure 5

1. We developed an activity monitoring sheet which was matched to the various attainment targets. We kept the targets to a minimum so that we could realistically keep them in our minds during the classroom work as we felt that this was important. Our class lists were entered into a computer and kept on disc so that we could have endless supplies of recording sheets without too much trouble. The actual activities undertaken by the children were recorded indicating (a) activities purely experienced, (b) activities achieved successfully (by producing something or being extended), and (c) activities

2. where children had encountered difficulties. From this sheet each teacher then transferred each child's achievements into their individual profile folders.

In our team evaluation meeting we recognised several areas for improvement. (For example, we felt the science investigations needed more structure, and the design and making activities needed to be more varied.) However, we did feel that we followed National Curriculum objectives by enabling children to be realistically involved in their own learning. It also prompted teachers and children working and learning together in a pleasurable yet challenging way.

Les Catchick has written an adventure game to complete the *Orb of Zalibar* explorations. It is available on BBC 40-track disc only. If you would like a copy please send a formatted 5.25" disc, and a self-addressed envelope stamped to the value of 30p (1st class) to Les Catchick, Dagfa House School, Broadgate, Beeston, Nottingham NG9 2FU.

The pleasures and pains of publishing or 'Publish and be damned'

Sue Senior

Primary Advisory Teacher for IT in North Kent

Cradling my new publication *Using IT Across the National Curriculum* in my hands as gently and lovingly as a new-born baby I experience feelings of near hysterical relief at its delivery. It has been a stressful time!

It was on 6 February 1989 at the Rede School in Strood when the project was subconsciously born. Talking with HMI about the possible place of IT in the National Curriculum and trying to identify activities in IT and the possible levels which might be appropriate, I found myself wondering how the classroom teacher was going to cope without instruction. The statement, 'Anyone who can produce a book about the IT activity and level of achievement will have a wide audience', produced the germ of an idea, and when two days later another colleague echoed that opinion the book was conceived!

I started writing on the Thursday of half-term but then had to abandon the work until the Easter holidays. In the meantime I did, however, write to two leading publishers asking if they would be interested in publishing my work. Both expressed an interest: one offering to make a decision upon receipt of a synopsis and sample text. This was prepared during the first few days of the holidays and sent on its way, not realising that I was to stand or fall in the publisher's opinion by this hastily written, barely re-drafted sample. Days drifted into weeks with a positive reply seemingly an impossibility, but the writing bug had bitten! Every evening, excepting the days spent at the MAPE Conference, I was to be heard tapping away at my Nimbus into the early hours of the morning.

The new term came; dreams of authorship were fading fast and the luxury of time to write was gone. A reply from the publisher changed all that. They thought that, with some adjustments, the proposal was sound. They were willing to publish! Joy! . . . Dismay. I had indicated that the text would be finished by 31 August, so little was done and I had a very full schedule. I wanted the book to be available by the Autumn half-term – how naïve I must

have seemed when I conveyed this to the publisher! I began the long, agonising process of trying to get a definite commitment from them as the lead time slipped away, but with the words '18 months to two years' being bandied about with increasing regularity, I began to feel that I was chasing a dream.

It was my husband who sowed the seeds of 'Publish it yourself'. He had been involved in brochure production several years earlier so to him it seemed a natural answer. This solution, however, gave rise to an even bigger problem – *money*. Now I was considering using my own money in an area in which I was completely inexperienced. Hours which could have been spent writing were wasted in weighing up the pros and cons of self-publication.

The quotation, when it arrived, made me feel sick just looking at it. That sum! Really! No wonder the large publisher offered me such a small sum as a royalty. It could be a total failure. I could lose the lot! Anyway it was more than I could raise so I might as well forget it. I did . . . for two days, then the desire to appear in print, a kind of vanity, urged me to approach the printer and haggle. I laid my cards on the table. This was the total sum I was willing to gamble – was it a possibility or not? With modifications to the original specification, it was. The ball was back in my court.

Two weeks and many sleepless nights later I told the original publishing house that I would publish myself. I confirmed the order with the printer and we set a schedule. Six weeks from delivery of the finished text to the finished article – publication date 13 October, a Friday at that!

By now I had completed the writing. The whole of the Summer holidays seemed to have been spent in front of a keyboard. During the writing, realising that there was a reference to an activity in a particular document but being unsure precisely where, I would frantically scan through the copies of the National Curriculum documents which now littered the study.

At half-term panic struck when I lost a whole chapter that I had just written and saved. I thought that I was making a backup copy of the

file, but when I checked to see what was on the disc I found that I had muddled the discs up and copied an old file onto my newly completed chapter. In desperation I phoned RM who were calm and reassuring. I sent them the disc and they recovered three-quarters of my deleted work. I left the rewriting of that final part of the chapter until the very end. I had already expressed my ideas and was reluctant to do it again. Which was the better ending to the chapter about *Cars – Maths in Motion* I will never know.

When I finally finished the text I was emotionally and mentally exhausted but, because I was publishing myself, the job had only just begun. Once all my ideas were down on paper I really did not want any more to do with it. My son, daughter and husband acted as readers for style and grammatical construction. The re-drafting stage, after thinking the text complete, was painful. I can appreciate why authors prefer to hand the text over to someone else and let them handle the proof-reading, layout, illustrations etc, and are content to be guided by an expert.

There are so many decisions to be made. What would the prelims consist of? What style of print for the headings? Where will the illustrations, charts and flow diagrams fit – in the text or as whole page inserts? I hadn't a clue.

I did, however, have very definite ideas about the cover. I am an infant teacher, and I wanted a child's illustration, a young child's unadulterated drawing. I easily found my picture, one of those given as an expression of thanks for working with a class. My original quotation from the printer had included a two-colour cover but when he saw the drawing and the amount of work involved in making a two-colour version, the printer decided that a four-colour cover would be more economical on time. A four-colour cover without any additional cost – I could have kissed him!

By this stage the Autumn term had started so all work was done late in the evening or the early hours of the morning. At some moment during the constant process of proof-reading and further re-drafting excitement started to develop slowly into a thrill of anticipation. It did not subside (even when my husband told me that he had needed to stop production because one of the charts was misplaced) until the book was finally in my hands.

Even then the work seemed to go on and on. Because we published ourselves we needed a name. This was a natural choice after spending months working with infant classes on the *Lost Owls* program – 'Owlet' it must be! Then an



An owl 'thank-you' cake, presented to Sue and the class teacher, for the enjoyment the children were given by the Owl Pack.

ISBN, packaging, delivery, storage. We needed an invoicing system, post and packaging agreements – do not underestimate the work if you are ever tempted. It goes on for ever, and unless you want your domestic arrangements totally shattered you have to get it right.

My book isn't a potential Nobel prize-winner I know, but from the immediate response from classroom teachers it is clearly doing exactly what I believed it would do. Comments such as 'Reading your book was easy – you don't have to be a boffin' and 'I feel less threatened by the changes after reading your book' make me feel, well, chuffed. What makes me happier is that the money has come back in, so my husband isn't panicking! I might even start writing another!

The book "Using IT across the National Curriculum" is available from Owlet Books, Ballochintuy, Tunstall Road, Sittingbourne, Kent ME10 1YQ, price £8.95.

Three terms of *Typesetter!*

Simon Hill

Windlesham House School

Desktop publishing promises to be a rich quarry that those involved in education would be wise to exploit to the full. Having used Sherston Software's *Typesetter!* program for over a year, I have found that producing a school or class newspaper naturally leads on to the study of the different styles of language, presentation, the effective combination of graphics and text, and an awareness of one's audience. The suitability of a particular style of writing ('register'), the importance of proof-reading, drafting, editing, and indeed the full involvement of all four language modes (talking, listening, reading and writing) are issues that are sharply brought into focus when pupils become their own publishers.

Sometimes DTP may be assigned to the 'hidden curriculum' and used as a convenient tool. As *Typesetter!* has a simple but effective facility that allows the user to import text files from other wordprocessors, it is easy to incorporate all kinds of reviews, reports and interviews into one's newspaper. There are also plenty of examples of using DTP as a vehicle for teaching History, Geography and many other subjects. For example, *The Holy Star* was a clever pastiche of a 'contemporary' newspaper's account of the Christmas story. On other occasions, however, DTP may become the centre of a range of activities to do with newspapers, journalism, and the role of the media in modern society. Many of these themes are presented in a lively way in Sherston's language and reading adventure *The Fleet Street Phantom*. This adventure program was designed to complement the *Typesetter!* package. At the end of *The Fleet Street Phantom* the children are rewarded for their efforts by becoming the editor of *The Daily News*: an excellent way of encouraging them to have a go at making their own newspapers.

Having been involved with *The Windlesham Weekly* has convinced me that DTP enables a wide variety of language and design skills, relevant to today's world, to be acquired and practised. Alongside using the *Typesetter!* package with a whole form to produce a magazine for Open Day, I also took my class to West Ferry Printers, probably the largest and most up-to-date printing works in Europe. The

children learned about how *The Daily Telegraph* is printed and saw for themselves how closely the methods they had been using mirrored the techniques of modern newspaper production. The computer had brought the 'real world' of industry into the classroom, on a level that the children could understand.

Is desktop publishing a technique or technology? Should teachers be content to use simple (but often very effective) cut-and-paste or should we try to introduce our pupils to the delights (and delays) of on-screen composition as soon as possible? Derek Maxted, both in his excellent book *Getting Into Print* and his recent article in *MICRO-SCOPE*, is surely right when he stresses that teachers should not feel guilty about using 'primitive' techniques. National newspapers still use traditional cut-and-paste, after all. Furthermore, my experience with *The Windlesham Weekly* has shown me that the majority of the DTP-related activity goes on away from the computer, so there should be no firm 'rules' about production techniques. Hand work can be effectively combined with computer and commercially printed (non-copyright) material.

As Don Walton notes in his review (*Typesetter! v. Front Page Special Edition*, *MICRO-SCOPE* 26), it is not a real disadvantage that *Typesetter!* does not offer any graphics facilities. Indeed, the fact that it does not have graphics is a bonus if you hate long waits, endless disc shuffling and the inevitable poor graphics resolution. Moreover, *Typesetter!* does allow the user to draw boxes, join them together and rub them out, while numerical counters at the bottom of the screen give an accurate idea of their size and shape when the A4 page is printed. Given some pen-and-ink drawings (or a plentiful supply of clip art) and a photocopier that can enlarge and reduce, graphics can easily be added later. Pictures from a Watford Digitizer or graphs produced by *Mini Office II* can also be incorporated effectively. After some judicious Tipp-Ex and enlargement onto A3, who can tell that we 'cheated'?

If I were to sum up my experience of editing *The Windlesham Weekly*, I would say that desktop publishing is different because it

motivates children to write well and to care about the quality of what they produce. With the aid of the computer, the writing process can become 'real', rather than a stale and pointless exercise which only the teacher will read and then forget about. Where children publish for children, or a much wider audience, the

motivation for writing, and the satisfaction from it, are much stronger. Writing is, after all, a two-way process, as the writer responds to the reader's praise or criticism. A colleague on the staff put this very succinctly: 'I love your newspaper. It's the only way of knowing what's going on in this school!'

16th of November

The Windlesham Weekly

The newspaper of Windlesham House School, with:

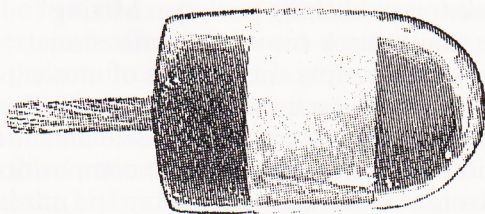
Tim Gomersall, Peter Rudebeck, David Hall, Tom Pearmain, and Rory Murphy

Food For Thought

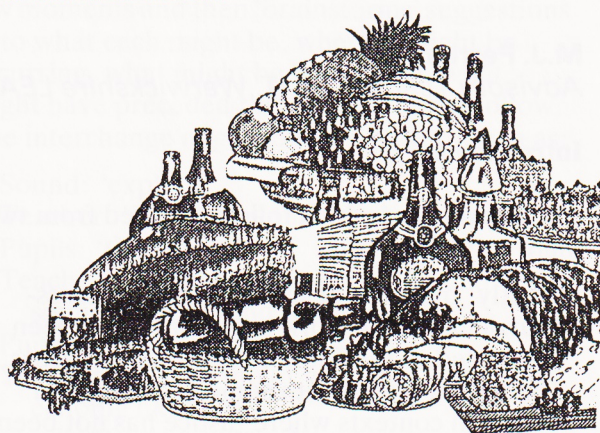
Should Windlesham House School have its own tuck shop? This was the question we asked Mr Megeney. "There is an E before the Y in Megeney," he claimed. "Actually, I do not think that there is a need, because the children have all the food they want already. They have breakfast, mid-morning break, lunch, little tea and supper. You probably do not have enough time to eat tuck. Who would run it? What about money to buy tuck?" Miss Kellett said, "I agree with Mr Megeney. The children go out at the weekends and the place is full of sweets as it is."

What Tim thinks

Tim Gomersall disagreed. "I think that a tuck shop would be a good idea, but Mr Megeney does have a point, as far as pocket money and the administration of a tuck shop is concerned. Most pupils think that it would be a good idea, however, so I think that a tuck shop would widely be regarded as a good move." "It depends who runs it", Mr Worley said, "and what happens to the profits. I have run one successfully in a boarding school before."



Peter Rudebeck said, "Yes, there ought to be a school shop of some sort, but what sort of tuck would it sell? There would be a couple of problems if people did not put their litter in the bins."



"A Brilliant Idea"

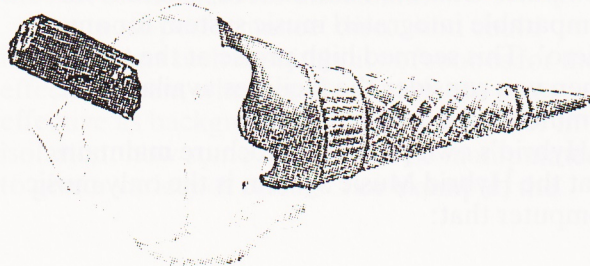
David Hall said, "It would be a brilliant idea to have a school tuck shop, although there would be problems with litter and some children might take it without paying." "Yes", said Tom Pearmain, "there ought to be one. I think it ought to be run by the Ones." Mr Worley added, "The profits could go to the library or the computer room or something like that."

Crisps for Miss Levi

Miss Levi said, "It is a good idea, as long as they sell crisps because I like them."

Porsche for dentist

When our Editor, Mr Hill, was asked for his opinion, he replied, "I think that it is an excellent way of buying a new Porsche for the school dentist."



Some useful references:

Getting into Print by Derek Maxted is available from MEDU, Bishop Grosseteste College, Newport, Lincoln. Price £10.00.

Desk Top Publishing and All That by Derek Maxted (*MICRO-SCOPE Writing Special*).

"Desktop publishing in education" by W. Hall and J. Layman, in the *Journal of Computer Assisted Learning* (1989) 5, 72-83.

The Desktop Guide to Desktop Publishing by John Walker is available from Glentop Press Ltd., Standfast House, Bath Place, Barnet, Herts EN5 5XE.

Typesetter! and *The First Fleet Street Phantom* are produced by Sherston Software, 8 Court Street, Sherston, Malmesbury, Wiltshire SN16 0LL.

Typesetter v. Front Page Special Edition by Don Walton (*MICRO-SCOPE* 26).

The music computer as a cross-curricular resource

M.J. Perrier

Advisory Teacher for IT, Warwickshire LEA

Introduction

The approaches which follow resulted from two main considerations:

- firstly, from the observation that in cross-curricular topic work music has often been regarded as the Cinderella of subject areas, being integrated with some difficulty and often in contexts where justice has not been done to its ability to motivate and unify diverse areas of the curriculum;
- secondly, as a response to those teachers who observe about any computer-based activity, 'But only a small number can work on it at once. What am I supposed to do with the rest of the class?'

I hope to suggest ways in which the music computer can both be the main stimulus for a wide range of cross-curricular activities and also be used with a whole class of children as well as with small groups.

The hardware

The children and I have found that the Hybrid Music 5000 system gives the best and most approachable set of facilities for the type of project suggested.

Upon its arrival on the musical scene *Computer Guardian* announced 'There is no comparable integrated music system for any micro'. This seemed high praise at the time, but when you consider the facilities available the comments are quite apt.

Hybrid's own publicity brochure maintains that the Hybrid Music System is the only music computer that:

- supports and is supported by fundamental principles of music and IT;
- is designed for music education over all ages, abilities and activities;
- is based on a microcomputer already in use in nearly all schools;
- includes a digital synthesiser, and musical keyboard with optional Midi interface, amplifier with speakers and expander module;
- encourages the development of further musical application software;
- already has the backing of many authorities and educational projects;
- is widely affordable: the firm quotes £286 + VAT to equip an existing computer station but has now introduced an entry level system (the Universal) at only £99 + VAT which will enable 95% of currently available music software (eg *Opus* and *Compose*) to use the sound output of the Hybrid synthesiser. This can be expanded to a full system later.

Based on the BBC and Master computer, the system in use can be thought of as a computerised music studio or the musical equivalent of a desk-top publishing package. Mixing console, multi-track recorder, synthesiser panels, textual scripts and screens of music notation can each be used as self-contained facilities or alongside others to create and alter the various elements of a complete composition.

Controls may be operated during the music, so, for example, an instrument's character can be adjusted while it plays. At any point during the work the complete project can be saved to disc for recall later or to be distributed to other users.

The built-in synthesiser is much more powerful than many currently available on the market. In addition to pre-set instrumental sounds (all the features of which can be altered to produce an infinite number of further 'instruments') special sound effects are provided as examples to which can be added others of the pupils' own devising. All of these can be mixed, sorted and altered into a complete musical composition. If the piece is 'traditionally' composed parts can then be printed in 'hardcopy' staff notation. The system does also encourage free composition and the creation of 'soundscapes'. Using the system's own language, AMPLE, the computer can also be programmed to generate random accompaniments and effects not possible with traditional Midi keyboards.

Performance details can be built into compositions, *rits.*, *cresc.*, *dim.* can all be created with ease.

The system uniquely includes a text-manipulating facility which allows pages of text to be displayed with musical accompaniment. This feature is explored in one of the following projects.

Hybrid Technology is, in my experience, one of the very few organisations in this field which actively encourages the development of new applications for its system and which responds constructively to the feedback from educational users. The development of the Universal is one example of this. Shortly a *Toolkit* disc is to be available which enables colourful graphic screens to be constructed to accompany the text and music facilities already inherent in the system.

The requirements of the Special Needs and Handicapped lobby have not been forgotten with the development of a *Soundworlds* program. This enables the creation of soundscapes and effects with the minimum of input resources and even using the facilities of a touchscreen. Hybrid Technology is always available to discuss developments and needs with interested or concerned teachers.

The first two activities which follow can be undertaken using any sound-synthesising equipment, independent keyboard synthesiser or computer-based synthesiser capable of creating and storing a variety of 'sound effects'. The third activity can *only* be undertaken using the Hybrid system as it makes use of the unique text-manipulating features of this package.

The description of all the activities, however, is written with the Hybrid system in mind.

Project 1:

Creative writing: 'sound stories' and 'radio plays'

The teacher and music system should be positioned near the blackboard in full view of the class. The teacher explains that the project will involve writing collaborative group stories or short plays suggested by, and using as an integral part, the sounds which the whole class would first explore.

Calling up the *Special Sounds* section of the Hybrid 4000 disc, the teacher should select, or allow the pupils to select any sounds from the list. The whole class listens to them in turn for a few moments and then 'brainstorms' suggestions as to what each might be, where it might be occurring, what might be happening, what might have preceded this or what might follow. The interchange might follow a pattern such as:

Sound: 'explode'

Teacher: 'What does that remind you of?'

Pupils: 'Gunshots.'

Teacher: 'What do you hear at the end of the sound? Does it end suddenly?'

Pupils: 'No, it echoes.'

Teacher: 'Where might you be to hear a gun echoing like that?'

Pupils: 'In a tunnel/in the mountains/in a deserted warehouse/in an alleyway . . .'

Teacher: 'Who might be shooting? Is it you? Is it someone shooting at you? Why? What is happening? How have you got there? What might happen if you shoot in the mountains?'

Pupils: 'An avalanche . . .'

And so the children build up their own ideas about what the sounds mean to them and how these ideas can give rise to stories/plays with different plots.

The class is then divided into groups and is set the task of writing a collaborative story/play built round, say, five or six of the sounds heard. Where a sound should occur in the story/play the children are to indicate this in their work.

When the final products are finished each group records its offering using the chosen sounds in the 'performance' as background effects. The end results can be played back to the rest of the class for discussion.

The 'post-performance' discussion could include items such as suitability of sounds for the effects chosen; whether the sounds are most effective as background to spoken words or in isolation; how some sounds can be manipulated to give a variety of effects. For example, the

sound 'howling' not only makes an effective hurricane or gale but, with glissandi up or down the keyboard and manipulation of the volume control, can recreate a most realistic rocket take-off/landing or air crash! Try 'jungle' at different pitches. Account for the different effects heard.

All this involves aural discrimination skills, imagination, creative writing, drama (act out the plays live with sound effects), artwork (draw/paint a scene from your story/play). The children can listen to professional radio plays with a greater understanding of the technical and artistic niceties involved in making an effective presentation. The more timid writer is challenged and stimulated by the prospect of writing for an audience and at the same time supported by working as part of a team. All teachers will be able to adapt this to stimulate appropriate areas of their work.

Project 2: Graphic scores

The music system and teacher should again be positioned near a blackboard. Examples of traditional and 'contemporary' scores should be available on display. Each child should be given a sheet of paper (minimum A4 size, preferably larger) which they should fold horizontally and vertically until they have a grid of squares/rectangles equalling half the number of pupils in the class (with a large group) or the same number of pupils if it is a small group (less than 20!).

The children should be called out in twos (for a large group) or singly (for a small group) to choose a sound name that appeals to them from the list of Special Sounds on the Music System. They should announce its name to the whole group. The rest of the class write that name at the top of one of the boxes on the paper. The children in front are allowed a minute to explore their chosen sound. The rest of the class listen and draw an abstract pattern or shape which they feel sums up the sound that they are hearing. At the end of a minute two fresh children are invited to the front and the process continues until all children have had a turn.

The class is then given two or three sheets of plain paper (A4 or A5) and are invited to combine two of their most interesting patterns/shapes in any way on these sheets. The final pattern sheets should be completed to include colour as well.

The class can then be divided into groups and

given a selection of tuned/untuned percussion instruments each. They should be allowed to investigate how they could re-interpret their patterns through the medium of their instruments. They can try each other's patterns and then assemble them in different ways to make a complete piece. They could discard any pattern which doesn't fit and try the 'jigsaw' of sheets in different combinations until they have a pleasing result. Each group can then perform their pieces to the rest of the class and discuss the results. Discussion points could include: did the prettiest patterns always produce the best sound? Were they tempted to make a good sound to fit a pretty pattern? Which shapes fitted well together and which clashed? Did any suggest dynamic content as well as pitch? How could one represent pitch/duration/dynamics/timbre? What is the role of the conductor? Is every performance going to be the same? Did everyone interpret the same symbols in the same way?

As a follow-up 'professional' graphic scores could be shown and recordings played. The children can discuss whether the composer's way of recording his sounds is effective or appropriate. They could compare this with traditional notation and discuss which offers greater scope to the performer. Dance could be fitted to the children's compositions and recordings made. The patterns might be recorded in different media or stories constructed to go with them.

The concept of pattern could be explored in many ways: mathematically, graphically, through science using natural patterns in bark, rock and in animals, birds and insects. Pattern music could be composed using the *Opus* package or *Compose*; historical patterns, patterns of worship, the rhythm of nature, reflective patterns . . . the list is endless!

Project 3: Adventure games/scenarios/environments/books

This project uses the unique ability of the Hybrid Music 5000 to combine text and sound and to display/replay in any specified order. Although this project as described has been built round the concept of an exploration of a 'domain' as in numerous adventure or role-playing games, the format can easily be adapted to the concept of a musical book, story, the write-up of a class visit or trip, the scenario of a play. It is especially useful when taking the form of the multiple-choice adventure story where a choice of decisions or outcomes to events may

be presented for the reader to follow. It can be used to explore sequencing of ideas and even to write an instruction manual.

The original project used an existing adventure as a stimulus for the whole class. They followed the unfolding of the scenario on screen, listening to the accompanying music as they went. They made choices as to the routes they should follow or the options they should take when presented with a variety of decision possibilities.

The teacher then explains that the class will construct an eerie castle, allowing exploration by the viewer/listener/audience. The class is divided into groups and suggestions are taken as to the different types of room one might find in such a building – torture chamber, bedrooms (complete with secret passages and trapdoors), dungeons, entrance hall, great hall, armoury, guardroom etc. Discussion can involve the purpose of each room, what one might find there, what might happen. Each group is allowed its choice of room and is told to write a vivid description, draw a picture of it and model it as a diorama (a scene or stage set in a box).

While this is progressing each group can take turns on the computer to write their description into the Notepad of the Hybrid system and to combine this with a suitable musical background (technical instructions are available separately). Discussion as to suitable sounds for the character of the room and its environment will bear much fruit. When each group has written theirs they should be linked with optional routes round the castle for viewers to explore. They could go through the entrance into the great hall, out the other end and thence down to the dungeons etc.

Much discussion can ensue about the best/alternative routes to follow, about options at each stage of the exploration. The children can then draw a plan of their castle with the position of each room. Drawing to scale, mapwork, measurement, symbols and plans can all be brought into this project as can historical elements, geographical locations of castles, construction etc.

The music which the children programme to play with each 'page' of their description can

lead on to atmospheric music in general, other composers' approaches to atmosphere and how they have reacted, musically, to different locations (*Hebrides Overture*, *Portsmouth Point*, *On Wenlock Edge*, *Plymouth Suite*, *Sinfonia Antarctica* etc). The use of traditional, tuned and untuned percussion instruments could be used to create an atmosphere or emotion. Each group could select an emotion to portray and for the others to guess. Music which tells a story could also be included.

A plan of the castle could be mapped out and a programmable turtle could be taken for a walk round, using the alternative choices planned into the Hybrid system as instructions.

The descriptions can be wordprocessed, printed out and displayed with the finished dioramas; stories can be written about what happened in castles of old, or what might have happened in each room of the children's own castle; drama could include acting out scenes from the castle's history. The computer with the Hybrid system installed should be part of the final display of work, alongside the dioramas, descriptions, pictures etc. It should be available for other children in the school to explore and read. It will cause much interest!

The structure of the Notepad linking of pages of text with music can also be used for a straightforward story. Books of stories can be constructed on disc and presented to the reader from a Menu. They can be read with or without musical background or with the use of headphones for private viewing/listening! The possibilities are limited only by the imagination of the teacher – the pupils' imagination goes on for ever!

If you would like the technical instructions please send a self-addressed envelope, stamped to the value of 20p, to:

Mick Perrier
Warwickshire Educational Computing Centre
Manor Hall
Shady Lane
Leamington Spa
Warwicks CV32 6RD.

Reviews

What is PIP?

This is the question I asked my class of six-year-olds, earlier this year. PIP had been in our class for about two weeks; we had explored its capabilities to some extent, and were beginning to be quite confident when using it. The answers to my question varied in format, but most agreed on certain things:

PIP is a black sort of box shape, and has different coloured buttons or keys that, when pressed, make PIP do such things as move forwards and backwards, and turn to the right and left.

Since then the children have discovered many more things that PIP can do, and the question I would ask now would be 'Who is PIP?', rather than 'What is PIP?', because the black box, with its buttons or keys on it that make it do something when you press them, has become our friend.

There is of course more to it than that simple explanation. PIP has a series of function keys, that allow it to move forwards, backwards, turn to the right and left, flash a light, pause, play a tune, clear and restore memory, and build up a procedure with repeat and end. Within the PIP package comes a magnet attachment with a place to screw in a piece of pencil, so PIP can draw while it moves. There is also a modifier plug which multiplies by ten every number keyed in – very useful for children who don't yet have a good understanding of numbers in the hundreds. There is a battery charger, which can be plugged in whenever PIP isn't in use, a very comprehensible instruction book, a song book, and a booklet with ideas from other users in it.

At present, when PIP is switched off, all the commands that have been entered disappear. This problem, however, is being resolved. A new piece of software is currently being trialled by the children in my class, which allows them to save the program that they have made on PIP onto a disc, either for later development, or to show others. It also works the other way – the programs saved on the disc can be loaded into PIP for further use.

PIP is very sturdy. It has withstood a child's attempt to use it as a skate-board, the only damage being that the wheels were pushed slightly forwards (but could be easily pushed back again), and the little light that flashed was pushed inside the casing, but not broken. PIP has been dropped, kicked, pushed and pulled about, and has been in daily use and is still going strong.

In our class, PIP has been Pipmetrodon the dinosaur, complete with paper costume; a police car, with paper bonnet; a digger, with a Lego attachment; a train; a bus; and probably many more things that I haven't been aware of. Nursery children have been using PIP with help from their teachers, and at the moment I am making 'stencils' which reveal a limited set of PIP's keys so that it is not quite so confusing for

young children. These stencils will allow the children to see for example just the forward arrow key, the numbers 1, 2 and 3, the Go key, and the CM key.

I have also started a 'PIP Club' at two different times each week, one for the older children and one for the younger ones. I envisage these groups changing every half term, to allow for new ideas and the new intake of children. The idea is that the children in the PIP Club can then go back to their own classes with the knowledge and confidence to show their peers what they have been doing.

The first things the child learns about PIP are its noises. PIP makes the same noise when it is switched on and when it has finished its program, and it makes a noise when an inappropriate key is pressed. The next thing the child learns is that a white key (command) must be pressed first, followed by up to three red keys (numeric), and finished off with the green Go key. Then after that children usually learn different things, according to what they are trying to make PIP do.

PIP is certainly a friend to the children in Oak



Farm Infant School, and is in constant demand. We are lucky enough to have three PIPs in our school, which is why I am able to run a PIP Club, but I think that the ideal situation would be to have one in each class. PIP is not just a toy, but a very valuable learning tool. It can be used right across the curriculum; for example, English includes writing, reading, talking about and listening to others talk about PIP; Maths includes measurement (PIP moves in centimetres), direction, all sorts of number work, estimation, planning ideas; Science includes exploration, finding out, testing; PE includes direction games, working in groups, listening to instructions, making sequences; Music includes making up tunes on PIP and trying them out on different instruments, and vice versa; personal and social development includes working together, accepting each others' ideas, taking turns, sharing; and there are probably many more areas that I haven't mentioned.

Almost every day someone else is excited about discovering something new about Pip, which to me is what child-centred learning is all about. From both mine and the children's point of view, Pip is a welcome part of our classroom.

Purchasing and rental details

PIP including charger, manuals, application notes, modifier plug and pencil lead holder – £195.00 + VAT. There is a 15% discount for cash or cheque with order – £165.75 + VAT. In both cases please add £5.00 + VAT for postage and packing.

Rental costs £8.00 + VAT per week plus £5.00 + VAT postage and packing. Up to eight weeks rental charge can be discounted from the purchase of that PIP if it is bought instead of returned. This gives an easy way to show PIP to the teachers etc before purchase.

PIP is available from Swallow Systems, 32 High Street, High Wycombe, Bucks HP11 2AQ; tel 0494 813471. Any queries should be addressed to Duncan Louttit.

Gill Westbrook

Hardware review

A black box full of goodies

I am writing this review using a remarkable piece of software called *Pipedream*. *Pipedream* is a word processor and a spreadsheet with some data handling functions, all of which can be worked on the screen as if they were on the same piece of paper. *Pipedream* is wrapped up together with a diary, calculator, filing system, calendar and a clock. These are all linked together with an excellent menu system and wrapped up in a black plastic box about one inch thick and the size of an A4 sheet of paper. It is called the Z88. I have used this little box sitting on the stairs, on the side of the bath, in headmasters' offices, in the car – in fact almost anywhere you can think of except actually *in* the bath. I have watched trained typists using it and they seem to take to the keyboard without any problem at all.

In addition to this I can with an extra connection, squirt information to printers and other computers remarkably easily, particularly if they are standard Epson printers, BBC computers or Apple Mac-

Intosh. As with most computer systems I have discovered some real enthusiasts among Z88 users in special needs and mainstream schooling, but it does not seem to have reached its potential as a useful tool. There are possibly two reasons for this – the size of the screen, and the power supply.

The screen is an LCD screen just like you see on a digital watch or clock but bigger, and there are six lines of text on the screen at any one time. I find the screen easy to see in daylight or with overhead fluorescent lighting even though the printing is small, but difficult to see with point source lights such as a desk light or standard lamp. The angle of the lighting and the adjustment of contrast is fairly critical.

The power problem is more of a 'turn-off'. The book optimistically talks about a 20-hour working life for Duracell-type batteries if you are using it a lot and about a year's life if you are not using it at all. As the last option misses the whole point of having a laptop, ie to use it as often as possible, then it is interesting but hardly very helpful! In practice I find that by using the Z88 sparingly, and by plugging it into the mains whenever possible, the batteries lasted about two to three weeks, which at about £2.75 a shot and with several machines in a school could come to quite a sizeable and frequent bill. My solution, so far, is to buy two sets of rechargeable batteries and have one set charging up while the other set is in the Z88 and change them over every day. This seems to be the ideal method and gives me complete freedom to use it as a true portable without carrying around those black power packs of which Sir Clive seems particularly fond.

The Z88 does not support a disc drive or tape for storing information. The machine sets aside parts of its memory as safe storage areas to which you can save your files just as if they were going to a disc drive; however everything is at the mercy of the battery power supply. When batteries are changed there is a device which gives you about a minute to get the old ones out and the new ones in. This does not apply if plugged into a power pack. I tend to squirt my files into an Apple MacIntosh or BBC as soon as possible but I haven't actually lost anything from the Z88 yet. Perhaps I just need more confidence. It is possible to store information in an almost permanent form on a chip called an EPROM but you can't change the information once it is on there without wiping it all off the EPROM with a special ultraviolet light and starting again. This sort of storage would be ideal for a set of information which seldom changes such as school telephone numbers etc.

As usual, I haven't managed to cover everything the Z88 can do and it would be as well to ring the main distributor for exhaustive detail. NCET have a laptop project going in six schools of various sorts and it is being coordinated by Phil Gamble.

Perhaps NCET would sponsor a car sticker saying:

*Z88 users can do it anywhere –
until their batteries run low!*

For further information contact: Z88 Cambridge Computer Ltd, Bridge House, 10 Bridge Street, Cambridge CB2 1UE

Don Walton

Software reviews

Title: **Police, Language in evidence**

Supplier: CSH, The Town Hall, St Ives,
Huntingdon, Cambs PE17 4AL
Tel: 0480 67945

Price: £28.00 + VAT + p&p

Availability: Acorn B; Master 128;

Compact; RM Nimbus (standalone)

During the Summer term we had several accidents in school playgrounds; others involved parents in very damaged cars; a dinner lady was arrested for tripping the breathalisher; a tanker carrying possible hazardous chemicals crashed on a bridge, etc – just the sort of things to send headteachers into an early decline.

In fact the children were learning to deal with such situations as part of a *Police, Language in Evidence* project which involved 25 schools. The accidents were staged by Police Constable Chris Evans, who instigated the project and worked with us for its duration, using his considerable powers of persuasion on the local garages to loan him crashed cars. Many of the children had substantial expert assistance from the rescue services and the police in the form of their school liaison officer and also their road safety officer and I believe that some legal points were cleared up by parents who were 'in the trade'.

Police, Language in Evidence is a computer program for teachers who are imaginative and who are prepared to put some effort into preparation. It simulates a police control centre over a period of two weeks in a fictitious town called Blyston. This control centre receives calls from the public relating to crime, accidents or indeed any other sort of call police are likely to get. It is up to the control centre to allocate the police control cars to these calls and to coordinate their work. The patrol cars collect information from witnesses. In the case of the three major incidents these statements are prerecorded on an audio tape and the children listen to the recorded interviews and make notes. Some schools replace the recordings with live witnesses, ie parents, who are willing to be subjected to cross-questioning.

One incident is an accident which is fairly straightforward to solve but lends itself to lots of associated activities, (eg a model of the accident scene could be made and photographs taken to recreate the various stages of the accident). As with many accidents there are no correct answers. The other two incidents are crimes of robbery and the evidence for these builds up over a period of time and can only be solved by the police officers having regular debriefing. The control centre has access to a computer database containing information on vehicles and criminal records to assist in the investigations.

Most of the schools taking part did their project over a concentrated period of one or two weeks, but it has lasted as long as half a term in some cases.

For those of you with a creative turn of mind it is possible to customize a crime file based on your own information, but I would strongly suggest you try the Blyston version first.

Don Walton

Titles: **A4 Forms Manager**

A4 Forms Designer

Supplier: Mewsoft, 11 Cressy Road, London
NW3 2NB. Tel: 01 207 2642

Prices: Manager £27.95; Designer £9.95

(Landscape Extension Disc £9.95 extra)

Availability: BBC Master, Archimedes

A4 Forms Manager is available for the Master and the Archimedes (the Archimedes version being slightly more sophisticated, as one would expect). Written by a teacher, it makes designing forms (A4, portrait or landscape) simple and quick. I started with the Master version, and even that has been extended by its author as he and other users suggested changes.

Although designed mainly for use by teachers, it is easy enough for most junior children to use, and comes with sample forms which not only illustrate its uses but also can be easily modified. To design a form you draw horizontal and vertical lines and enter the appropriate text. It can then be printed out using the computer's characters or the printer's. The latest version makes it possible to combine ordinary text with a fancy double-height font. Four of these fonts are provided on the basic disc, and others are available as an extra.

Timetables, assessment forms, class lists, worksheets, reading records, etc can easily be created. I find the box copy and delete functions very useful in speeding up form design. Even more useful is the facility to place markers on the form where you want, for instance, names or grades or scores. This form can then be used as a master form, and data spooled from any word processor that has a spool facility. Thus the same form can be used for several classes. It is also possible to sort names, etc, either alphabetically or numerically, again a very useful feature.

My only niggle (and this a minor one) is that the lines aren't fixed, and if you add text you might have to tidy up a line. Don't let this put you off an extremely practical and useful program.

Doug Weller

Title: **Genesis**

Supplier: Software Solutions, Broadway
House, 149-151 St Neots Road, Hardwick,
Cambridge CB3 7QJ

Price: £69.95 + VAT

Availability: Archimedes

Genesis: a 'hyper' program for the Archie

Before plunging into my review, let me first apologize to non-Archimedes users for my use of jargon. RISC OS is the operating system used by the Archimedes, and the desktop is what you see when you switch on – a screen with Icons (little pictures) over which you can position an arrow and, by pressing a button on the mouse, take some kind of action, rather than typing in text.

Genesis is the kind of program that makes you want to have an Archimedes in your classroom. This is a new type of database (although those familiar with the Mac will recognize its similarity to *Hypercard*). Instead of being record or field orientated, it

allow you to create pages of information (including graphics and music) and to link these in any way you choose in what is called a *Genesis Application*.

Genesis has been designed in collaboration with Hampshire LEA. It's nice to see a software house and an LEA working together; perhaps we can expect to see more examples of this kind of collaboration in the future. Thus the program is designed from the point of view of the pupil-user, to make it as easy as possible for children to create *Genesis Applications*. This review is based on a demonstration copy, but the full version should be available by the time you read this.

Simply clicking on the *Genesis* icon creates a page (similar to a RISC OS window) on the Archie Desktop. Each page can hold frames containing either text (in various sizes and colours), graphics, or sound (from *Maestro* files). These frames can easily be moved around and resized if necessary. Once created, a page can be linked from a frame or several frames to other pages. Thus you could, for instance, design a data base on a local village study in which the first page was a simply-drawn plan of the village. This might show the local pub, post office, castle ruins, etc. Double clicking with the mouse on any of these could lead you to other pages with further information. Multi-branching stories and adventure games could easily be written using *Genesis*; if I can get hold of the final version I hope to create an adventure game, based on the escape of King Charles the Second, as part of a project on the Civil War. Hampshire LEA and Software Solutions see it as a fascinating way of presenting project work.

Graphics from any of the standard art packages, including the freebie *!Draw*, can be used. Photographs or pictures could be digitized and used within *Genesis*. (Every LEA computer centre should consider buying a scanner as a central resource. If they don't, ask around the secondary schools.)

Another sample application on my demonstration disc was a map of Europe. Clicking on a country gives access to another page with a flag, a music symbol

and the name of the capital. Clicking on the music symbol plays the national anthem!

The program uses all the RISC OS conventions, ie you keep full access to the Desktop and can easily transfer files (eg *Maestro* or *Draw* files) from other discs to your *Genesis* application.

Not yet implemented on my version is a FIND procedure. This will be in the final version, and will allow you to type in a keyword and locate all the pages containing this keyword, opening either the first page or all those found. Since opening all those found might clutter up the screen, there is an option which creates a window with miniature copies of each pages with the title of each page, rather like a directory window. You can then examine only the pages you think are relevant. To speed up the search, a keyword index can be created.

Also under consideration is a sound sampler playback facility. If this is implemented, it would be possible to create for instance a database of British birds which would include not just pictures or photographs of them but also their bird calls! (You would need the sound sampler hardware and software to create the database, and I would expect and hope for such sophisticated databases to be created by software houses or, perhaps, senior school pupils.)

To sum up: *Genesis* is a database which offers you facilities most others do not – graphics, music, animation, and the ability to link a page to a number of other pages. It allows you to organise information naturally, in any way you choose – and to change how it is organised with ease. It does not require elaborate setting up of field names etc. Also included is a FIND facility to search the database. What it does not have is the facility to make calculations and present the data in the form of graphs. Thus it is not just another version of *Quest*, *Grass*, *DIY Database* or *Key*, it is something quite different, although still within the database family.

Doug Weller

MAPE administration changes

This year will see significant changes to the way that MAPE is administered, with the aim of providing a more efficient and professional association.

MAPE is now registered for VAT and this will, in future, affect the sales of back issues and Conference fees. In the short term we may also have to add VAT to membership subscriptions, but if we can close a loophole in the Constitution, then future subscriptions may be exempted. Hence the following Constitutional amendment will be put forward at the AGM.

Paragraph 3.1 currently reads:

Membership is open to any individual or institution who supports the aim of MAPE.

The proposal is that paragraph 3.1 is replaced by

Membership is restricted to individuals and institutions who support the aim of MAPE and who are connected with the education profession.

(Proposed by Reg Eyre;
Seconded by Barry Wake)

In the past MAPE has used the services of BKT to run the subscription service. We will be phasing out the use of BKT over the next six

months in order to run the service ourselves. The subscription officer will be Val Siviter, Cilgeraint Farm, St Annes, Bethesda, Gwynedd LL57 4AX. There is a dedicated MAPE phone line that will be staffed between 1.00 and 3.00 pm on a Tuesday and Thursday and between 7.00 and 9.00 pm on a Monday and Thursday. At other times messages can be left on an answering machine. The number to call is 0248 602655.

Sales of back issues will continue to be available from the MAPE Information Officer (Yvonne Peers), Newman College, Bartley Green, Birmingham B32 3NT (021 476 1181 ext 271).

Any other enquiries should be addressed to MAPE Administration (Gloria Jones), The Old Vicarage, Skegby Road, Normanton-on-Trent, Notts NG23 6RR (0636 821647).

Please try to address your queries to the right person. Subscriptions to Val, sales to Yvonne and other queries to Gloria.

This period of transition may cause one or two problems. We hope you will bear with us; at the end of the day we will be able to provide a far more efficient service.

What can you expect to receive this year?

In addition to the three issues of *MICRO-SCOPE*, you should also receive a 'Special Needs' Special in the Summer term, MAPE Tape 7 in the Autumn term (a resources pack + software on the theme of space travel) and, owing to popular demand, another Special in the Autumn Term on the theme of Christmas with a Micro.

Formal Notification

The MAPE AGM will take place in the lecture theatre of the Social Sciences Building at the University of Nottingham at 6.00 pm on the evening of Saturday, 7 April.

MAPE news

Chiltern on the move

We put on two events in 1989. Both were successful and enjoyed by those who attended.

In 1990 we have doubled our committee (now six members) and plan to double the number of events.

1. 20 January – **Using MAPE programs.**
2. 3 March – A morning of **Logo** at St Hilda's School, Bushey.
3. Proposed day of **DTP** in May at Barnet Teachers' Centre.
4. Proposed morning of **Control Technology** in a school in Barnet around October.

Ring me for further details of these events or any other bright ideas for the Chiltern Region.

Betty Lumley

Berkshire region

The Berkshire branch held a meeting about **Using your Computer at Christmas** at the Berkshire Computer Centre on 22 November. Over 40 people attended (standing room only!) and watched demonstrations of *Crossword Call-Up* (NORICC), two new *Caption Christmas* Sampler discs (Oldham

SEMERC), Christmas tune files to accompany *Compose* (ESP), using *Touch Explorer Plus* (MESU) to create an advent calendar, *Christmas Tales* (RESOURCE) and *Picture Builder* (Newman Software) for the Archimedes. They then had the opportunity to try some of the programs for themselves, and to buy sets of Christmas overlays for *Prompt Writer* collected by the IT Team and of the *Caption Christmas* sampler discs. Thanks to Chris Hopkins, Sue Murty, Anne Jones, David Congdon, Sue Underhay and Alan Harding for 'volunteering' their help so willingly!

Using your Computer at Christmas continues to be an extremely successful MAPE activity all over the country. Three years ago, MAPE published the *MICRO-SCOPE Christmas Special* and since then there have been many new programs, new hardware, such as colour printers, and many new MAPE members. The time seems ripe therefore, for an up-dated Christmas Special and so we are planning to publish one in good time for Christmas 1990. If you have any Christmas ideas which you have used successfully in the classroom, please send them to me by the end of April, with examples of children's work if possible. Many thanks – I look forward to hearing from you!

Chris Robson

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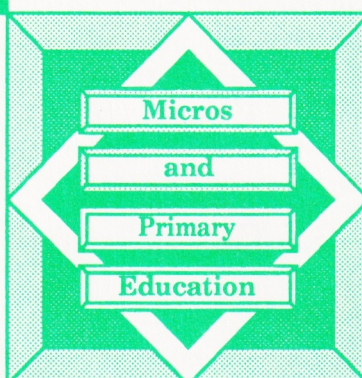
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