Early learning centres?

WITH GOVERNMENT DRIVES TO PUSH EDUCATION INTO THE IT AGE, DEBBIE DAVIES ASKS IF PCS REALLY OFFER THE CLAIMED **EDUCATIONAL BENEFITS** TO CHILDREN.

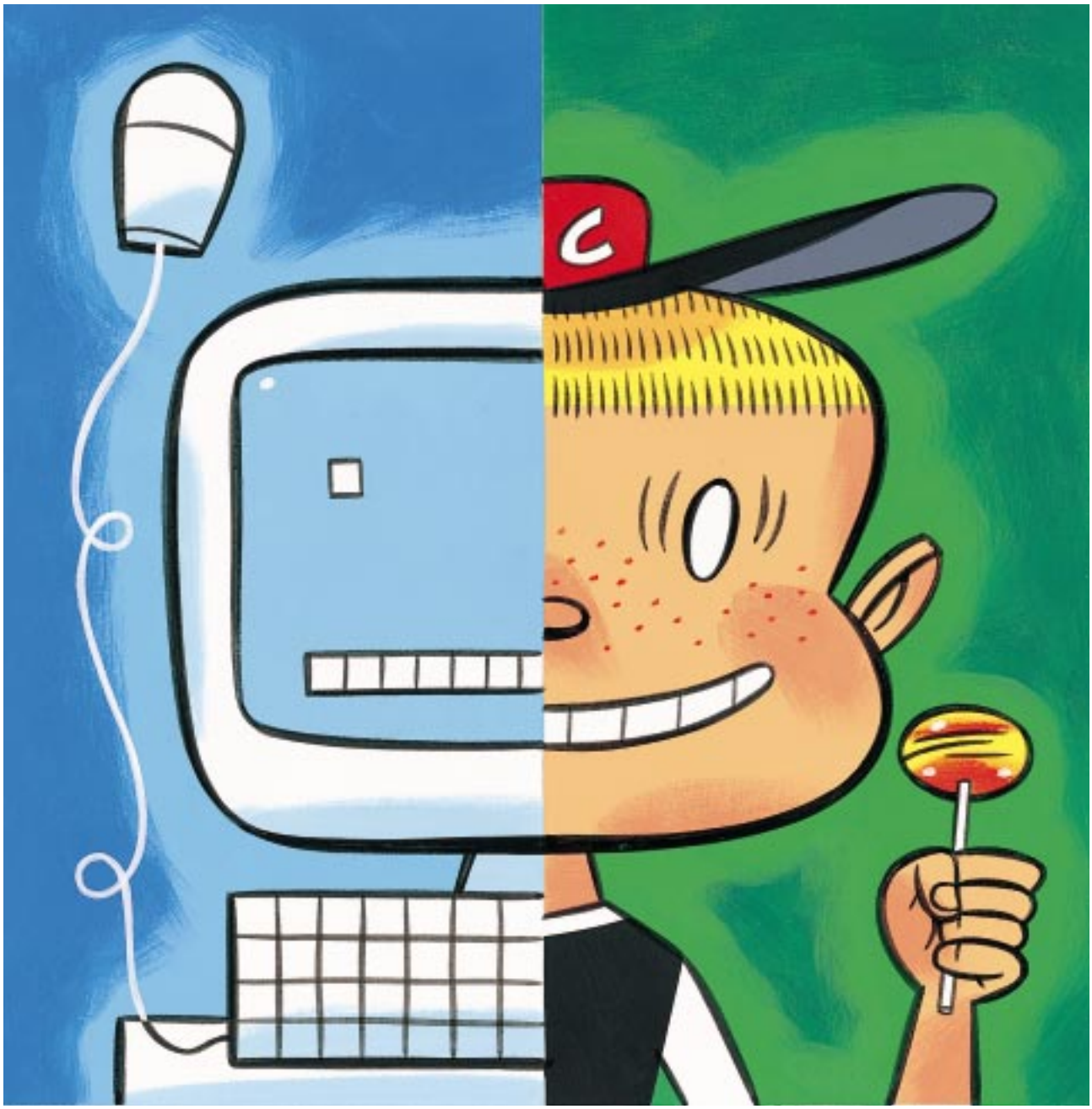


ILLUSTRATION JASON FORD

SHALL I TRY TO OPEN THAT cupboard, climb up those stairs or take everything out of that cardboard box today? Growing up is a great adventure in which children pit their intelligence against the world around them. Nowadays, there is a new puzzle to solve: How do I get that computer to work?

'The idea of setting a young child's enquiring mind against a computer keyboard, strikes me as an endlessly fascinating one,' says Charles Desforges, professor of education at the University of Exeter. Education and Employment Secretary, David Blunkett, agrees. The man who wants to put the wartime exploits of Bletchley Park's Enigma codebreakers back on the history curriculum is keen on computers. At a time when schools are short of funds for books, enormous sums of money are being spent on computers for schools. With academics and politicians in agreement, it comes as a surprise to find so many questions being asked about whether computers are, or are not, of educational value to young children.

Critics of the £1bn investment that will wire primary as well as secondary schools to the internet by the year 2002, say that children have plenty of time later in their academic careers to learn about technology and that early exposure to computers may, in fact, do more harm than good. They argue that technology will change so rapidly between the time a child starts at school in reception class and the time they enter the workplace, that there is no valid vocational reason to start technology training at the ages of four or five. The counter argument is simple. Familiarity with technology is now such a prerequisite that to deny access would put anyone at a disadvantage.

Criticism of computers as a tool for early learning is more perplexing and harder to counter. The argument is that concrete, not virtual, activity is best for young children. Children are better learning whether things are heavy or light, wet or dry, by picking them up and touching them, not by dragging things on a screen. Exposure to the flashiness of computer graphics can stifle creativity, say the cynics, while making the difficult business of learning seem boring.

A growing number of childcare experts question what young children learn from activities such as creating a multimedia presentation – do they end up better informed on the subject and able to think cogently? 'Probably not', says Jane Healy, an educational psychologist and author of *Failure to Connect*, a book published last year that raised questions about the value of computers in education. 'There is absolutely no evidence that technology improves a young child's learning, although it may stimulate their enthusiasm for playing with a new gadget,' says Healy. She argues against children being encouraged to log on before they reach school age. 'Time on the computer might interfere with the development of everything – from the young child's motor skills to their ability to think logically and distinguish between reality and fantasy,' she says.

Finding research to counter these arguments is difficult. 'There is no research that proves computers benefit young children's learning,' says Desforges. The speed at which technology has developed, and the fact that the current generation of adults grew up without computers, means definitive research is still several years away. That leaves today's parents in a quandary. Having bought a computer on the manufacturer's promise of the learning advantage it offers your children, how do you make it work?

'There is no point in setting the computer to one side and filling the screen with software that is boring and pointless,' says Desforges. Yet this is what early-learning software often does.

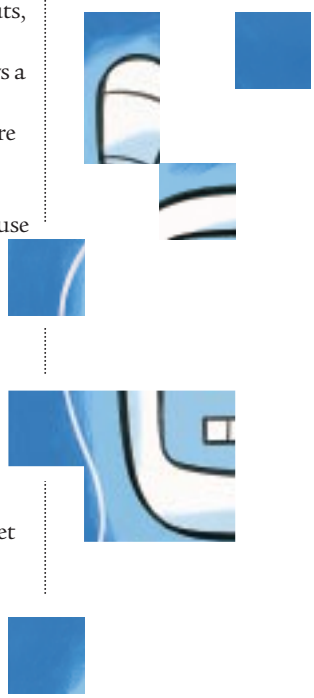
'Teachers like programs which fill the whole screen so there is little chance of a child crashing the computer or getting lost between programs,' says Mike Matson, a former teacher and author of educational material for websites and CD-ROMs.

TYPICALLY, SOFTWARE DESIGNED for the under sevens sets out to teach literacy and numeracy skills. In particular, programs for two to five-year-olds, such as Microsoft's My Personal Tutor and Knowledge Adventures' Jump Ahead and Adi Boo series, focus on language skills, visual and auditory discrimination, counting and sequencing, memory recall and attention-building skills.

There is no exploration of keyboard shortcuts, playing with windows, maximising and minimising programs. Instead, the child follows a predetermined path chosen by the software's author. Big claims about learning advantages are made for children who follow the path.

The interface by which the child uses the program is reduced to the simplest form of mouse control. The keyboard can usually be set to one side. Learning is through interactive games presenting concepts such as sequencing or shape recognition. However, transferring games that have proven value and appeal from the real world onto the computer screen does not always work.

'A young child can exercise far more skill with a shape-sorting toy than by doing the equivalent activity on-screen,' says Desforges. Yet on-screen shape-sorting games proliferate. Blowing virtual bubbles is a popular demonstration of comparative size on screen. The mouse is used to control the size that the bubbles become. Bubble blowing is a



classic child's game and enormous fun. Transfer it to the computer and not only does it lose some of its educational value, it becomes boring too. The play dimension is diminished. Anyone who has watched children playing will know that games are kept alive by the child's own invention. A child may blow space bubbles, then make dinner for teddy out of bubbles, or go behind the sofa to blow secret bubbles. Early-learning software reduces these options for invention.

CHILD DEVELOPMENT experts unanimously agree that the way for early learners to acquire skills such as language is through human interaction. 'Research on early brain development shows that toddlers have a critical need for direct interactions with parents and other significant care givers for healthy brain growth and the development of appropriate social, emotional, and cognitive skills,' says a statement from the American Academy of Pediatrics.

Desforges agrees. 'You can't beat the language exchange of human interaction for the development of language skills,' he says. The same applies to acquiring skills such as visual discrimination or counting, grouping and sequencing. 'You don't need to switch the computer on to teach a young child about colours or shape,' says Matson. 'Returning from the supermarket with a car load of things and then sorting them into heavy things, green packets and square shapes is better than spending £20 on a piece of software.' The danger is that parents and carers will use software as a substitute. 'After five minutes, the child may have left the computer, the adult is then peeved and so insists the child uses the computer,' says Matson. This is a no-win scenario.

Children without computers are INFORMATION AND COMMUNICATION-STARVED as well as intellectually disadvantaged

If the thrust of most early-learning software is wrong, what do our child development experts recommend the under-sevens do with computers? Is their advice to leave computers off the menu all together?

This brings us back to Desforges' first observation – that children of this age are inquisitive and that the match between the enquiring child and a computer is one that is made in heaven. 'If computers present a social danger, it is to those families without access to one. Children without computers are information and communication-starved as well as intellectually disadvantaged,' he says. His objective would be for children to master the control of computers as early as possible. Email is another facility children should use as early as possible. 'Email can have a big impact on a child's writing,' says Desforges. It is a brief writing form and children's literacy skills will benefit if they email friends or join a club.

Matson agrees: 'In the future, all writing will be done using a computer.' Functions such as Copy and Paste can be used to repeat a line such as 'I like chips' lots of times, then the end word can be deleted and changed to make a poem. Or a favourite passage of prose can be loaded and then everything erased except the child's favourite words. This will instantly create another poem and the child will gain confidence.

Discovering Undo and Redo functions is another favourite with young children, as is changing font sizes to impossibly big and small options. A word processor specially designed for children, such as Talking Textease from Softease, may be worth considering. This adds word banks so typing is less of a chore and audio support so children can hear what they have written. 'Spoken text helps reluctant readers and avoids you growing up mispronouncing a word,' says Matson.

Fortunately, schools should be developing these sorts of exercises in order to fulfil the National Curriculum requirements for Information Communication Technology (ICT) at Key Stage 1. Requirements for ICT include the expectation that children will have sent and received email and that some will have mastered attachments by age seven. Children should also be using Copy and Paste and Find and Replace functions in word processing.

With almost two-thirds of primary schools connected to the internet, having the necessary tools to teach ICT is less of a problem. In Desforges view, the teacher's own experience is more likely to hold pupils back. 'We will need to wait for the next generation before all teachers exert power over the computer,' says Desforges.

Creativity is the other area in which child development experts advocate computers. 'Programs that let children move pre-arranged shapes around allow lots of expression,' says Matson. Desforges agrees: 'The designer of The Beatles' *Sergeant Pepper* album sleeve spent three months making a collage of London scenes. With a computer, he could have done it in an afternoon.'

Enriching quality of life is what computers should be about, says Desforges, not asking children to select blue buttons from green. 'Computers make it easier and faster to do things such as shopping, or finding the route to somewhere you want to visit,' he says. These are the best reasons for children to acquire computer skills, without which they risk being disenfranchised. ❐