

# Health Education and the school computer

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Within a surprisingly short space of time, the school computer has become as familiar a sight on school premises as the school caretaker. This article examines the potential of the school computer for assisting in a health-education programme.

It is worth spending some little time to consider whether the school computer is likely to suffer the same fate as so many previous innovations: enjoying a brief reign of popularity, then deemed to spend years gathering dust in the Head teacher's office. (Remember teaching machines?) The indications are that it will not. First, computers – and the plural is becoming commonplace even in small schools – are not things reserved for schools alone, as shown by the growth in sales of home computers. Secondly, the introduction of school computers has been accompanied by a thorough training programme for staff. Thirdly, as any system is only as good as the software that can be operated upon it, the growth in computers has seen an equal growth in available software.

## “Barny”

From the Health Education point of view, the last of the above three points is of crucial importance. What software exists, and what software can be produced? At the time of writing, software for Health Education is almost totally non-existent, apart from a few enterprising amateur efforts and some “imports” from the United States. Of the latter an interest-

ing example is the Body Awareness Resource Network (BARN), known as Barny to its users, developed by Dr. David Gustafson of the University of Wisconsin at Madison. Barny is designed to provide factual information and behavioural change skills on a number of adolescent health topics, including smoking, sexuality, and stress management, by means of individualised interaction with the program user. (This is a common device in computer programs, as those familiar with the BBC “Welcome” program will recognise. The user is invited to type in his name, and the computer addresses him throughout in these terms.)

Following an assessment of the user's current behaviour, Barny branches to the appropriate sections designed to enable the user to make decisions about his behaviour, undergo skills training for the behaviour to be carried out, and acquire referral information about community resources. However, Barny is not yet available in this country, nor is it in a form compatible with the BBC Micro-computer found in many schools. The Health Education Council is currently examining the potential of such material as Barny: whether it can be adapted for

British use, or whether a fresh design, based on a Barny-style approach, is worth pursuing.

### Programs for health education; some problems

Programs such as Barny do, however, give an insight into the way "Computerised Health Education" could develop, or at least into the questions which must be asked at this stage. Up to now, computers in Local Health Authority education units have largely been used as a tool for office management, for such tasks as word processing, data storage, and so on, with little attempt being made at producing software for use in local schools. The first question to be faced is, therefore, "Who produces the software?". Writing programs is a time-consuming task which is probably beyond the resources of the average Health Education Unit in terms of either time or expertise. There is a body of opinion which maintains that teachers should write programs. Again, as in the case of Health Education Officers, no doubt there are the enthusiasts who do this, perhaps when attending courses at the local Micro-Electronics Project Centre. Consequently, until commercial software, such as a British "Barny", is available, there would appear to be a strong case for centralising information about what software is available, perhaps through the Micro-Electronics Project. (The Health Education Council is currently working on such a scheme, identifying and collating programmes for Health Education.)

The second problem to be faced is that of the quality of the programs. Children nowadays are used to a very high standard of graphic presentation on computers, and any program for school, whether health education or not, has to compete with the intricacies of Pacman and Donkey Kong, lest it be dismissed as another "second-rate" effort for schoolchildren.

A further question is that of confidentiality. Nearly all health-education topics have their personal, sensitive aspect. The experience of Barny has shown that the question of confidentiality with com-

puters is not the same as that commonly asked, i.e., "How do I prevent unauthorised users from gaining access to the program?" This is a fairly straightforward security problem. The appropriate question is rather "How do I assure the user that the information he types in about himself is not thereupon stored so that others, including teachers, have access to it?". If computer programs are in any way to influence health behaviour, this confidentiality must be assured.

A fourth problem is the simple one of access to the computer. Where in the school is the computer located? Can the pupils have access to it; is it kept permanently in the Science Lab.; or is it even locked in a cupboard for very genuine security reasons, and brought out solely for lessons? How many computers are there? A small number will mean that time available per child will be pitifully limited.

### Two illusions

Practical considerations apart, there remains the central question, which until evidence of application becomes available must remain a philosophical and speculative one. Can a subject involving such a wealth of personal feelings and attitudes, the "affective" area of the curriculum, be better taught by a machine than a person?

It is the author's opinion that the essential point about the application of computers to health education is not to understand the computer's *potential*, but to understand its *limitations*. The machine/person question is a seductive one, but arises from two illusions, both fundamental to new technology, and both imperfectly understood. The first illusion concerns the personalised nature of the computer, as indicated above with Barny, where the computer asks the user's name, and pulls out a "tailor-made" program for that person. In reality, of course, it does nothing of the sort. All the questions and answers already exist in the computer's memory, and the addition of one's name merely gives the illusion of interaction. As we are consider-

ing computer use for adolescent health behaviour, one wonders how long it will be before the intended adolescent realises how false this is, and because of it fails to gain any real benefit from the program.

The second illusion is very closely related to the first. A computer, however large its memory and however sophisticated its programs, is finite; and because the potential needs of the user are infinite the limit for a given activity can quickly be reached, again leading to frustration if used seriously, and cynical cheating if not. Both these considerations could lead to the school computer going the way of teaching machines, to the oblivion of the store cupboard. Now those better versed than I in computer use may well argue that the above comments reflect a stage of technology that has already been surpassed, that true personalised interaction, at an almost infinite level of response, is either with us or waiting in the wings. But this is not my point. The fact is that because a computer must have been programmed by someone else the two illusions are still relevant, no matter what size of memory, because in essence it remains the simple case of the learner plugging into other people's information and other people's assessments of what that user is likely to need. In other words,

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## Future Issues

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We are collecting material on *Preparation for Parenthood*, on *Pets*, and on *Teeth*, for future issues. If you would like to contribute an article, a short note, or a letter on any of these subjects, please get in touch with the Editor as soon as possible.

Next issue will include some notes on *Teaching about the Child, the Family, and the Community*. This

the basic educational position has not changed at all; and my fear is that once the learners come to realise this – the novelty of the computer having worn off – these illusions will be exposed for the grand sham they are, and the learners will turn away.

But there is one further consideration. The remarks above apply to the learner, but there are also potential problems for the teacher. Some may indeed see the computer as a panacea, as the magic teaching aid *par excellence*. Others will take the completely opposing view, seeing it as a threat to their profession. Both attitudes are wrong. The computer is neither useful for everything nor useful for nothing. The illusions referred to above must be appreciated by both teacher and taught, who need to see the computer, whether being used for health education or anything else, as one stage and one component of the learning process, rather than as the process itself. It is only when the computer's limitations are appreciated that its great potential can be realised.

*(Stephen Turnbull is a founder member of the Health Education Officers' Computer User Group).*

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teaching pack is linked with the professional development of teachers through workshops and seminars.

We hope, also, to have some extracts from *Mayfly*, a questionnaire study of over a thousand 4th-year pupils in schools around the country, carried out in May 1983. This is due to be published in book form in the near future.

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