Information Technology in the Primary Classroom

Marilyn Metz

In the first months of the exciting new Maltese initiative in information technology and education, there are many new fields to explore and questions to ask. This short article aims to raise a few issues that seem, to the author, to be worth considering, both in the short term and in the not-so-short term. Through raising these issues, others may well come to light, and it is hoped that an on-going debate can be established, with the general goals of raising awareness, developing effectiveness and supporting teachers and students.

On a day-to-day basis, teachers and students are likely to be addressing very practical issues, such as "How do I introduce the machinery to the children?", "How do I ensure fair use of the machinery?", "How can I introduce a given application?", "What can young children do with a given application?", "What kind of record-keeping and assessment techniques are appropriate?", etc. These are all important questions, and need effective answers so that classroom practice can develop. It is also, however, good to step back a little and to bear in mind the much more general question "Why use computers in schools?". One answer to this question addresses the need for knowledge of and practice with the technology of computers, in order that school-leavers will have achieved the skills needed for them to join an

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Marilyn Metz
*is an IT consultant
in London.*

increasingly electronically sophisticated working world. In this case students would be introduced to I.T. applications that will be of direct use to them in their future careers. A second answer emphasises the teaching and learning process itself, recognising the role that computers can play as a teaching and learning tool. In this situation I.T. applications would be chosen on the basis of their effectiveness in introducing curriculum content and developing students' knowledge and understanding in various curriculum areas. These two reasons are not mutually exclusive, and can, in fact, broadly co-exist. I am sure that there are also other, equally legitimate answers to the question. What is important is that educational practitioners give careful thought to the rationale for computer use, and realise that the focus of computer use in the classroom will differ, depending on which dimension of the total rationale dominates at any given time.

Teachers working with young children are much more likely to focus on the role of the computer as a teaching and learning tool. One of the first questions they will be asking is "Which I.T. applications will be most useful in the classroom?". When working with 6-7 year olds and computers, I found it helpful to ask myself the following questions when making decisions about which I.T. applications to select:

1

Can the children do this work as effectively in any other way? It is important to remember that the mere fact that a computer is being used in a classroom does not automatically guarantee that work is being done effectively or that the machinery is being used to best advantage. For instance, programs that offer drill and practice in, say, spelling or arithmetic, may have initial novelty for the child, and may support a child who needs help with written work, but in the longer term they offer nothing that a teacher cannot offer in other forms.

2

Will I be using this application in the same way with the same children in a month's time? An affirmative answer to this question may imply that the computer is being used simply because it is a computer, and not as a tool to develop children's knowledge, skills and understanding. Good classroom practice is oriented towards progress. Of course, differentiation of children's individual needs may mean that the same application will be used

in the same way with different children, or may be used in a different way with the same children, and may thus earn the right to be included as a useful application, along with others. Examples of such an application are those which have specific content (say, letter/number recognition) but which offer the flexibility of different levels of complexity for the children.

3

Is this I.T. application offering the children the opportunity to be active learners? Many young children have experience of sophisticated electronic machinery in the form of games, where their role is primarily a passive one. They re-act to the electronic environment, rather than take a pro-active role. This re-active role implies that the computer is the "expert" rather than the "expert tool". An expert is knowledgeable and capable in her/himself; an expert tool needs an active user in order to fulfil its potential. It is arguable that the most potentially productive I.T. applications are those where the user takes an active role. In writing this article using a word-processing package, my role is entirely active. The word-processor cannot have the ideas; it is simply the medium I have chosen. It can assist in the rapid reorganisation of words, sentences and paragraphs and to some extent can help me with spelling, but only when I decide to use these features. In a similar way, a data-base cannot collect the data or make decisions about which fields to create. It can sort, select and classify but only that data which the user has entered and only in a way compatible with the fields the user has chosen. Educational theorists such as Piaget, Bruner and Vygotsky have argued that in order to become an effective learner a child needs to be actively involved with what s/he is learning. If we accept these theorists' arguments then any I.T. application used in the classroom must, therefore, offer the child the potential for active learning.

These three questions are, of course, in no way the only important ones to ask, and there are no right or wrong answers to them. They are offered simply as general guidelines. The importance of developing and maintaining consistency within and between schools does, however, mean that the questions could be seen as relevant not only to individual classroom practitioners, but also to managers and administrators concerned with the development of school and national policy.