Using Desk-top Publishing to Develop Literacy

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Abstract

Desk-top publishing is an important growth area in the use of computers in business, and it is beginning to have an impact in schools. In this paper we examine the learning benefits which may accrue from the use of desk-top publishing techniques with children, especially in terms of the development of literacy skills. Desk-top publishing is analysed as an extension of word - processing, but with several extra important features. The paper concludes by describing some of the possible ways of using desk-top publishing in the classroom.

The desk-top publishing revolution

In the world outside schools the last few years have seen the dramatic growth of the use of computer systems for desk-top publishing, that is, the production of books, journals, newspapers etc. by writers themselves, without the intermediate stage of specialist typesetting. The technology to make this possible has had a vast impact in the commercial world, especially on those sections of the workforce such as print workers whose skills are thereby made redundant. The tensions arising from this have been clearly seen in disputes such as that surrounding the movement of production of the Times group of newspapers to new premises at Wapping.

Yet the controversial nature of these developments should not mask the real enablement which they imply. Because of this new technology, the production of printed materials to professional standards is no longer the preserve of those with access to a specialised work force and expensive equipment, but has suddenly become available to anybody with the minimum of equipment, namely a computer, a suitable printer and appropriate software.

Most schools in the United Kingdom are now in this position, and many have been quick to see the potential of desk-top publishing as a vehicle for the production of their children's work. As with many of the creative uses of computer systems in schools,

desk-top publishing has definitely emerged as an enabling device for children. The quality of hardware and software at present available at a price most schools can afford, does not as yet allow children to produce work of much higher quality than could be achieved using old-fashioned typewriters and cut-and-paste techniques. But it does vastly simplify productions of this kind, and therefore, in realistic terms, enables children to produce work of a quality they would previously have been unlikely to achieve. By making the technicalities of production so much simpler, children are allowed to devote more of their concentration to the substance of what they wish to produce. In addition, it should be borne in mind that the point which is always made with regard to computers in schools has even more force in this area; what the technology can do today, it will be able to do three or four times better next year, and probably for less money.

In this paper we shall explore some of the potential which desk-top publishing seems to have for the development of literacy skills, before examining briefly some of the forms it may take. We shall focus particularly upon its use in primary schools, but most of the points we make will have relevance at all stages in education.

Beginning with word-processing

Many of the advantages of desktop publishing systems are, of course, shared with straightforward word-processing. This also, it has been argued (Chandler & Marcus, 1985), is an enabling device for children's writing. Perhaps the most obvious advantage involved in the use of the computer to assist writing is that it is almost guaranteed to produce instant success for its users. All writing done on the computer, whatever its quality, 'looks good'. The computer does not allow differentiation between those with well and poorly developed physical writing skills. Because word-processed text has a professional physical appearance, this is an immediate and important step towards its goal of effective communication.

This in itself would not, of course, be sufficient reason for encouraging children to use the computer to write. Many teachers have also found (Trushell & Broderick, 1984, Smith, 1986) that word-processing leads to an improved quality in children's writing. Editing and revising texts is made much simpler when it can be done on the screen before committing the writing to paper. This diminution of physical effort encourages children to edit and revise, with consequent improvement in content, style, clarity etc. Word-processing also seems to have a compacting effect on writing, perhaps because it is so easy to delete sections without leaving a trace. By using the computer all writing becomes provisional, and open to addition, extension, rearrangement, deletion and

reshaping. This fact cannot help but have profound implications for children's perceptions of the process of writing and its products.

Extending word-processing

There are a number of advantages which desktop publishing has over word-processing which make it extremely suitable for use as an educational writing environment. The first concerns the purposes for which it is typically used. Because of some of the features discussed below, an important use of desktop publishing is in the production of class/school newspapers or magazines. These by their nature are intended for other people to read, and their producers are therefore involved in 'public' writing. This adds a dimension of purposefulness to writing which children may occasionally not perceive in their other writing tasks. The public nature of this writing in turn gives children greater incentive to improve its quality and accuracy. Public writing implies also that an audience has to be taken into account. Children who are aware that what they produce is going to be read by a variety of other people can be alerted to the needs of these audiences, and encouraged to reconsider the form and content of their writing in the light of these needs.

A further feature of the production of newspapers and magazines through desktop publishing is that these media are generally very familiar to children. They recognize the distinctive features of these media and appreciate the facility that desktop publishing gives them of emulating these 'real life 'features. An important stage in the production of a class newspaper or magazine should be the close study by children of real newspapers etc. In the course of this study many literacy skills can be taught and practiced, from the critical reading of advertisements to the factors influencing the impact of headlines. Children may also be introduced to other features, although from experience in using desktop publishing packages with children, it appears they are already much more aware than might be imagined of the importance of such features as the type-face used, the design of the layout or the style of writing demanded in particular formats. Likewise, one of the benefits of using these packages with children is a sharpening of this awareness. Desktop publishing facilitates the production of writing in a variety of formats, from newspaper to story book, each with its own distinct set of conventions. Research done on reading comprehension (Anderson & Pearson, 1984) suggests that fluent readers carry around in their heads a set of schemata for approaching various text formats, and that these act as frameworks and guides to the full understanding of what is read. In enabling children to produce writing in this variety of formats, it is likely we may assist in the development of an appropriate set of schemata.

The desk-top publishing environment

The desktop publishing environment has some features which make it particularly useful for realistic writing formats. One of the most important of these, which the more elaborate software packages have, is the cut and paste facility. By using this, sections of pages can be electronically lifted from one place and moved or copied to another. This is an extension of the provisionality of writing mentioned earlier. Anything children produce can always be changed in a number of ways, and they quickly grasp the power of this, and experiment with format. This again is likely to increase their awareness of the effects of different formats on their readers, another important literacy skill.

This facility also allows children to copy faithfully a significant feature of writing environments in the real world. Cut and paste is an essential feature of the production of written products from newspapers to novels, and most children will get some experience of doing this operation with scissors and glue, before using the computer to simplify the process. Using the computer means, of course, that they can experiment with several layouts before finally committing themselves to one. Indeed, they can also easily print out alternative layouts and gain some feedback on their appropriateness and acceptability from other readers. This can only increase their awareness of the demands of different audiences.

Another feature which desktop publishing makes possible, and which the available software is just beginning to make use of, is the mixing of text and pictures. Software is now available for only a couple of hundred pounds (a price that is likely to decrease) which enables users to snatch pictures from video players and cameras, and import these as digitized pictures into the desktop publishing environment. Once under the control of the computer software, these pictures can be manipulated in various ways: stretched, enlarged, reduced, rotated, reversed, chopped into pieces and overlaid or interspersed with text. This is a facility of immense potential, which enables users of small personal computers to produce pages which are almost indistinguishable from those of real newspapers. For schools not yet ready for this sophistication, software is available which allows children to mix cartoon style pictures with their writing, and is easily operable by six year olds. It should not be forgotten that a significant element of literacy has always been the interpretation of pictorial images, and the use of these images to communicate meanings and to supplement the messages conveyed by texts.

One of the features of standard word-processing which is commonly exploited by

teachers is the way it encourages co-operation among children. Desktop publishing is even more likely to encourage this, because of the nature of the tasks for which children will often use it. The production of a class or school newspaper is intrinsically a shared task, with groups and individuals working together towards a common goal. The need for co-operation is thus built into the task, forcing a sharing approach to writing with task-oriented discussion, collaborative editing, and increased sensitivity to the opinions of others.

It is clear that desktop publishing has a great potential as an environment for the purposeful development and practice of many literacy skills. There are several ways in which it can be used in the classroom, from physical cutting and pasting of word-processed text to the use of sophisticated and dedicated software packages. In some ways it is possible to see this range in terms of a sequential development, allowing for the gradual broadening of children's skills. The final section of this paper will briefly outline some of these techniques and their associated software.

Desk-top publishing techniques

1. Physical cut and paste.

The easiest way to introduce children to the techniques of desk-top publishing is to use physical cut and paste techniques, which many teachers will already have tried at some time. This simply involves cutting out pieces of writing and pictures, arranging these on a large sheet of paper, and sticking them down with adhesive. This procedure can be greatly eased and improved if the writing used is first printed out via a word-processor. This is not just a question of improved neatness, important as this is. A feature of most word-processors is their ability to produce pieces of writing in a variety of formats. Thus a piece could be produced in standard 80 letters per line format, or for a newspaper, for example, in 20 letters a line format. This naturally gives a good deal more flexibility in the preparation of the finished product.

A further dimension which several modern educational word-processing packages give is the ability to print out text in a variety of fonts and sizes, from normal size Roman to giant Gothic. Thus text can be produced in fonts suitable for headlines or even more elaborate purposes, which again gives extra flexibility and potential for experimentation.

2. Newspaper emulations.

There are software packages now available which are deliberately designed to facilitate the production of school newspapers. These range from pre-formatted packages which ask, "What is your newspaper called?", "What is your headline?" etc., to more open-ended packages. What they have in common is the ability to produce boxes on the screen and subsequently on the printout, into which the writers can then stick suitable pictures, photographs etc.

3. Graphics/text mixing packages.

Software is available which allows writers to incorporate graphics into their writing. This tends to consist of a word-processing package which is accompanied by a collection of pre-drawn, cartoon-type pictures stored on a computer disk. The user is allowed to select any of these pictures and insert it onto his writing page, which can then be printed out. This then provides a simple way of adding illustrations to writing.

4. Full desk-top publishing packages.

Full desk-top publishing packages tend to be designed for adult use rather than specifically for schools, and consequently are often quite complex to use. The features provided by these packages vary, but the user should expect to be able to:

- enter text and reformat it as required, select from a variety of fonts and text sizes and mix these on a page,
- load in text previously written on a word-processor, place text anywhere on a page, or in a document, incorporate pictures into a page, either from a pre-drawn collection, or digitized video pictures.

Although full desk-top publishing packages are at present perhaps too complex for regular use in primary schools, there can be little doubt that interest in this area will ensure that simple to use, but powerful packages will emerge in the near future, helped by improvements in hardware capability. Desk-top publishing has such potential for enabling children that it is undoubtedly here to stay.

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