Text-processing with the Computer: The Implications for Literacy

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Abstract

Word-processing and desk-top publishing have received a great deal of attention from commentators on the use of computers in schools. This attention has focussed largely upon how the new medium of the computer can enhance children's writing. Little attention has been given to the effects of using the computer upon children's perceptions of literacy, and upon the nature of literacy itself. This paper attempts to address these questions.

The paper begins by briefly discussing the nature of literacy as presently conceived. The issues of autonomy and control emerge as central to the concept of literacy. The paper then goes on to outline some of the features and benefits of text-processing with the computer, with particular emphasis on provisionality of text and the control which text-processing can give the writer. The final section of the paper examines the impact of text-processing upon the process of literacy and stresses the political implications of the enhanced control which the new medium gives.

Introduction

Of all the various ways in which the microcomputer can be used to develop children's language and literacy, word-processing and desk-top publishing have perhaps received a majority of attention (Maxted, 1988; Wray and Medwell, 1989a). This attention has been focussed largely upon how the new medium of the computer can enhance children's writing. Little attention has been given to the effects of using the computer upon children's perceptions of literacy, and upon the nature of literacy itself. It is these questions which will be addressed in this paper.

The paper will begin by briefly discussing the nature of literacy as presently conceived. It will then go on to outline some of the features and benefits of text-processing with the computer. The final section will examine the impact of text-processing upon the process of literacy.

Throughout the paper the term 'text-processing' is used to mean all aspects of creating and manipulating a text on a computer, that is, a combination of word-processing and desk-top publishing.

What is literacy?

As a brief exploration of the nature of literacy, this section will be centred around three quotations taken from de Castell, Luke and Egan, (1986), each of which highlight a different focus for a definition of literacy. These three foci embody distinct types of views about literacy, each of which has its contemporary adherents as well as historical significance.

1. Literacy as culture

"The classical definition of literacy as embracing the domain of high culture fails to address our situation, and we no longer accept its implicit associations linking literacy with an esoteric lettered class." (de Castell et al, (1986), p.7).

In our everyday use of language, we commonly use the term 'literate' in similar ways to 'educated' or 'cultured'. We might say things such as 'These children come from highly literate home backgrounds', or 'This man is extremely literate. He seems to have read everything'. The term here means more than simply reading and writing, but has implications of some kind of quality.

This usage stems from the historical development of literacy. We are so accustomed nowadays to literacy being a more or less universal phenomenon, that it is difficult to appreciate that for hundreds of years it was not. Before the invention of the printing press, literacy was very much the preserve of an elite. The position of scribe was one with a high degree of status because the skills it demanded were in short supply. Reading and writing were not skills possessed by the majority of the population, but were concentrated in certain groups. Religious groups used them to preserve and embellish sacred works. Other written materials, because they were painstaking to produce, were scarce and expensive and therefore the preserve of those with sufficient resources.

This elitist view of literacy was, in fact, vigorously upheld by some groups who saw it as positively harmful for ordinary people to be 'taught their letters'. If they could read, they could then read works such as the Bible for themselves, and then would not need the church to interpret it for them. The universalisation of literacy, through the spread of printing, was for many people a highly political process.

The effect of the introduction of printing was to make the elitist view of literacy increasingly untenable. The more people had reading and writing available to them, the more they came to involve themselves in it, and in the end rely upon it. The spread of literacy made for a more complex society which, in turn, demanded greater mastery of literacy. Universal literacy became essential for the effective functioning of society. One of the chief motivating forces behind universal education was the need for literate workers. The three Rs were given the central position in education that they have occupied ever since. In more recent times the degree of literacy in a country has come to be a measure of the civilisation of that country. Revolutions in countries such as Russia, China and Cuba have had as one of their chief aims the spread of literacy. Literacy is no longer elitist but universal.

2. Literacy and citizenship

"A person is literate when he has acquired the essential knowledge and skills which enable him to engage in all those activities in which literacy is required for effective functioning in his group or community." (de Castell et al, (1986), p.8.).

As I have just argued, modern society needs people with sufficient command of literacy to act as good and useful citizens. Citizenship involves a number of roles for each of which literacy is essential. Heath (1983), in her research into the experience of literacy of selected American communities, found literacy being used for seven socially orientated purposes.

1. Instrumental. Literacy provided information about the practical problems of everyday life, e.g. bills, traffic signs, price tickets etc.
2. Social interactional. Literacy provided information needed to maintain social relationships, e.g. letters, cards, cartoons etc.
3. News related. Literacy provided information about distant events, e.g. newspapers, newsletters etc.
4. Memory-supportive. Literacy served as an aid to memory, e.g. notes, telephone directories, address books etc.
5. Substitutes for oral messages. Literacy was used when direct oral contact was impossible, e.g. messages, notes to school etc.
6. Provision of permanent record. Literacy was used when records were required for legal purposes, e.g. tax forms, certificates etc.
7. Confirmation. Literacy provided support for ideas already held, e.g. settling disagreements, checking against recipes etc.

Although these uses of literacy are rather different from those envisaged by other definers of 'functional literacy', they still reflect the basic premise of this view: literacy is a tool which supports effective functioning as a citizen.

3. Literacy and self-determination

"Being 'literate' has always referred to having mastery over the process by means of which culturally significant information is coded." (de Castell et al, (1986), p.88.).

Of course, the idea that a person needs to be literate in order to be a good citizen is subject to the very powerful criticism that it sees literacy as an essentially passive thing. If individuals are thought of as existing to serve society's needs and to fit in with its demands, literacy can be seen as one device for controlling them. This concept is central to the work on literacy of Paulo Freire and his associates (Freire, 1972). Literacy is, according to Freire, predominantly used as a mechanism of social control. Those agencies in society which seek to control others, either governments, companies or other associations, in fact require certain minimal levels of literacy in those they control. The mechanisms of social control in modern society depend upon literacy. Propaganda, rules, regulations, publicity of various forms all use print and depend upon the population's ability to decipher that print.

Literacy, however, can be defined as involving much more than this passive approach. The third definition of literacy claims that it involved "having mastery over the process by means of which culturally significant information is coded." If this is accepted it implies that the literate person, far from being controlled by the manifestations of literacy, is, in fact, in control of them. This involves having some autonomy in the process of using literacy, and having the ability to make choices. (Wray, 1988) Propaganda and publicity rely for their effect upon recipients' lack of autonomy, and their sometimes overpowering influence upon the choices made. The concepts of autonomy and control are, therefore, central to literacy.

Later in this paper I shall argue that autonomy and control are precisely the things which are increased by the use of the computer for text-processing. Firstly, however, I shall outline briefly the impact which text-processing can have upon children's writing. This is explored more fully elsewhere (Wray and Medwell, 1989b).

The impact of text-processing

Commentators seem to agree that word-processing is an enabling device for children's writing. Perhaps its most obvious advantage is that it is almost guaranteed to produce instant success for its users. All writing produced 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 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 decrease of physical effort encourages children to edit and revise, with consequent improvement in content, style, clarity etc. 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.

Desk-top publishing goes further than simple word-processing in terms of the enablement it provides for writers. It allows children to produce their writing in formats which are 'realistic' in the sense that they correspond to formats the children regularly encounter in the outside world, for example, newspapers and magazines. It is easy to underestimate the level of children's awareness of these formats. Given access to software which is supposed to allow them to produce newspapers, for example, they often complain unexpectedly about quite small deviations, such as type-face and layout, thus indicating a surprising sensitivity.

The desk-top publishing environment has some features which make it particularly useful for realistic writing formats. One of the most important of these 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, not only in content but also in layout. Using the computer means, of course, that they can experiment with several layouts before finally committing themselves to one.

Another feature which desktop publishing makes possible is the mixing of text and pictures. Software is available which enables users to snatch pictures from video players and cameras, or to scan in photographs or diagrams. These pictures are then digitised and imported into the desktop publishing environment. Once under the control of the computer software, the 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. It extends provisionality and gives the writer increased power over the product.

There are two major implications from the use of word-processing and desk-top publishing which deserve fuller explanation.

1. Provisionality of text

Because text on a computer is easily reshapeable, in content and format, it becomes provisional. Words and sentences can be altered as can the place at which those words and sentences occur. Not only that but the physical appearance of a page of text can also be changed. The type-faces, the size of margins, the number of columns, the number and position of pictures are all open to alteration: alteration which can be effected by pressing a few keys. This simplicity encourages, in fact almost forces, the writer to reflect on his/her product. The presence of alternatives implies choice and the ability to choose implies the writer having control over the process.

2. Control

Text-processing puts the writer in control of the writing process. Decisions have to be made, and alternatives selected. The final product is not arbitrarily forced upon the writer by the size of the paper being written on, the width of the lines, the size of the margins, the size of the picture already drawn etc. These things are under the control of the writer, and again the need to make decisions about them forces reflectiveness in the writer.

The implications for literacy

What are the effects of these new facilities upon children's perceptions of literacy and the nature of literacy itself? There seem to be three major issues.

1. Text as servant

When using desk-top publishing the writer gains control over text and can shape it anyway he/she wishes. The writer thus has 'mastery' over the text, in the words of our earlier definition of literacy, in a more complete sense than is usually the case. Notice that this relationship between literate person and text is the opposite to that more commonly found. In many of our dealings with text in the world, it is text which controls us rather than vice versa. Text (or print) tells us how to run our lives, and tries to persuade us (with a great deal of success) what to buy, what to do and what to think. The reversal of this relationship which comes into operation when text-processing seems likely to challenge perceptions of text.

2. Writing can control

A further dimension to this comes into play when we consider the kinds of texts which are most often produced on the computer. These tend to be public in nature and to be produced with the express purpose of affecting other people. Children use desk-top publishing most often to produce newspapers, posters, and advertisements, all of which contain writing aimed at influencing others' actions. Having this aim, they are forced to consider how such writing goes about influencing others. In attempting to achieve this influence in their own work, they are likely to become more aware of the strategies which are employed in the real world to achieve it. And this increased awareness is in turn likely to lead to an increased ability to resist being influenced themselves. Learning to use writing to control others may enable children to resist others' attempts to control them.

3. Presentation enhances power

A common phrase often employed in debates about secrecy etc. is 'Information is power', and certainly the possession of information which others do not have does give a distinct advantage. There is a sense, though, in which power does not reside only in the possession of information, but also in how this is presented. The washing powder produced by a small firm may actually be superior to that produced by a multi-national giant, and have the research data to prove it, but still fail to sell as well because of the superior advertising campaign of its rival. In other words, it is the way in which information is presented that produces the major effect.

Now one of the main ways in which the advent of desk-top publishing has revolutionised information-presentation is the facility it gives to anybody with access to readily available equipment to produce print-outs which rival those produced professionally. In the same way that word-processing liberates the child with poor handwriting from the limitations of this disability, desk-top publishing liberates the amateur computer user from the limitations of lack of professional resources. In theory, with desk-top publishing, there need be little difference between the presentation of a multi-national company and that of a primary school. It is perhaps true that at the moment the requisite hardware is a little beyond the resources of a primary school, but this is likely to be a temporary phenomenon. Even now, £2-3000 will purchase a system which will produce black and white material of equal quality to that produced by most professional publishers. This price is certain to reduce in real terms, and new facilities are certain to be available in the near future.

This situation implies a real democratisation of literacy. Groups previously unable to compete in terms of presentation can now, by combining resources, produce materials which gain greatly in credibility by their professional appearance. Achieving this appearance becomes a central skill in literacy. "Having mastery over the process by which culturally significant information is coded." Thus the spread of desk-top publishing not only alters users' perceptions of literacy, but also extends the nature of literacy itself.

Such a situation, of course, has profound implications. Increased control over the presentation of information may be liberating in some circumstances, but it may also be liberty-threatening. With the new provisionality of text and page, the concept of the 'definitive record' may become somewhat blurred. This record can always be altered. Rewriting history may require no more than the pressing of a few keys on a computer. It is clear that, in this Orwellian world, controls are going to be increasingly necessary. The key question, of course, is who will do the controlling. And who will control them?

Conclusion

There can be little doubt that the use of text-processing is both a political and a politicising process. The manipulation of information to serve particular ends can fulfil political goals, but can also raise awareness of the ways in which information can be manipulated. The ability to engage in these processes is, for the first time, becoming available to all.

It may seem extreme to argue that the use of text-processing with young children is a political process. This, however, ignores the fact that literacy, at any level, has never been politically neutral. As developers and cultivators of literacy, teachers need to be aware of the implications of what they are doing. The main thrust of this paper has been to argue that the potential of text-processing changes these implications in significant ways.

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