From computer-aided writing to computer-aided publishing: Training for document design

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1.0 Introduction

In this paper I would like to first argue that document design training should have a place in most workplace communication courses. Then I will share with you some of my viewpoints in training learner writers in a workplace communication course for document design and also my experience in planning to set up a document design studio and in preparing to offer a module of the same name, i.e. Document Design Studio (DDS), in a Higher Diploma course in English for Professional Communication (HDEPC) at the City Polytechnic of Hong Kong. I will start by looking at the place of computer-aided publishing, or desktop publishing (DTP) in education in general and argue that document design (DD) training is in fact an indispensable component in an advanced workplace communication program where computer-aided writing is practised. Then I will look at the place of DTP at CPHK and discuss some of the key issues considered when planning for document design training and describe what has come up so far with our course design, detailing the approach, the procedure, the content, and the physical and computer setup of the studio. Finally, I will end with a brief conclusion, which represents my own ideas about the role of DTP in EPC and some future possibilities and directions of document design training in Hong Kong, and indeed in any other places in the world. In this paper, the term *document design* (DD), which is the official name of the module we offer, is used interchangeably with *desktop publishing*, which is the more popular termed for computer-aided publishing.

2.0 The need for DTP training

DTP has been on the market for more than 10 years, but we must admit that educationalists have been slow in reacting to it and in finding the right place for it in workplace communication courses. As Wahlstrom (1989) observes:

> Teachers of writing, teacher educators in English, writing lab directors,
> and directors of programs in scientific and technical communication
> have been slow to realize the impact of desktop publishing (DTP) on
> our work. ... Scholars are only now beginning to explore this rich
> research area, and their observations are urgently needed. (p. 162)

Wahlstrom (1989) points out the need for writing teachers and administrators of writing programs to find ways of integrating DTP successfully into existing writing programs and courses. Williams (1991), who is a researcher and writer, describes DTP as "a recent addition to writing in the classroom" (p.189). But still, DTP has not been given the recognition it deserves in various curricula around the world, and certainly not in the case of Hong Kong, where the offer of a DDS module in HDEPC at CPHK represents the only pioneering effort to integrate DD training in a workplace communication curriculum.

At first sight, one might be tempted to think that DD training is far remote from communication at the workplace. It seems to belong to the area of computing, computer software or art & design. At least this was what I thought before I gave some serious thoughts about the relationship between DD and second language writing in workplace communication. I am going to argue in this paper that DD training is in fact an essential component in a modern workplace communication course where computer-aided writing is already practised, if one of the objectives of the course is to train learners to cope with the changes in the various forms and aspects of communication. Hence the theme that I am addressing in this conference: Training for change.

2.1 What is DTP

It is interesting if we take a look at the following definitions or descriptions of DTP given by various writers and researchers.

> "Desktop publishing" refers to a computer system that can be used to produce a finished page without using paste-up. It normally includes a stand-alone computer system that is attached to a laser printer and has a layout program that integrates text and graphics in an environment called a WYSIWYG. (Sullivan, 1988a, p.344)

> Desktop publishing merges writing, graphic design, instructional text design, and publication production in an entirely new way. (Sullivan, 1988b, p.265)

> DTP is a way of streamlining and reducing the costs of the printing processes. (Wahlstrom, 1989, p.163)

> Because DTP is a digital technology, it can be involved in both the production of conventional print on paper and in the "generat[ion of] new electronic publications that virtually simulate print on paper". (Wahlstrom, 1989, p.165)

> ... desktop publishing is concerned mainly with the presentation of information. It is seen by many writers primarily as a means of improving the appearance of text or of mixing text and graphics, rather than a tool of writing as such. (Williams, 1991, p.189)

> Desktop publishing is a combination of word processing, graphics, design, typesetting and page markup intended to transform raw words into a final publishable document. (Williams, 1991, p.189-190)

If I am allowed to wrap it all up, DTP is an emerging technology that embodies a combination of skills from several different but converging disciplines: writing, design, and publication production, making possible reduced costs and increased personal control in publishing either on paper or in an electronic form. When we use

the term DTP, we sometimes refer to the technology itself, and sometimes the use of it. One thing cannot be wrong. DTP is related text and graphics. Text is the main course; graphics are the desserts. It is related to writing, or to documents built upon some kind of writing.

McClelland and Danuloff (1997) says in the introduction to their book *Desktop Publishing Type & Graphics*:

> An effective document does two things -- it attracts attention and it conveys information. The success or failure of any document is therefore equally as dependent upon presentation as it is upon content. (p. vii)

Success of a document means in fact success in communication. If we recognize that more attractive document designs enhance communication, I see no reason why DD training should be left out in any EPC or workplace communication curriculum where improving communication in writing is one of the course objectives.

2.2 Desktop publishing and word processing

The second argument that I would like to put forward is the merging of DTP and WP (word processing). A lot has been said about the changes that have been brought to the writing process with the advent of the micro-computer. No doubt, word processors that comes with micros have a profound influence on the way people write and the way people learn to write (See, for example, Hass (1988) and Rodrigues, D. & Rodrigues, R. (1989)).

If we believe that word processing has an impact on both first and second language writing, then we should be convinced, too, that DTP should have an impact on the writing process. This is simply because today word processing itself has changed. DTP and word processing in fact are becoming more and more indistinguishable. This is particularly true with Windows-based word processors like Microsoft Word for Windows, Lotus Ami Pro, or WordPerfect for Windows, as the latest versions of these WPs have come to include features that were once found only in DTP packages, for example, column layouts, automatic generation of tables, table of contents and indexes. I am going to support this by making a crude comparison of one of the very popular high-end word processors with one of the mainstream DTP packages, both claiming to provide a WYSIWYG (what-you-see-is-what-you-get) environment.

Table 1 Comparison of Word for Windows 2.0 and PageMaker 4.0

Features	Word for Windows 2.0	PageMaker 4.0
Leading, tracking and kerning control	No	Yes
Master page	No	Yes
Mini-save facility	No	Yes
Pasteboard	No	Yes
Text rotation	No	Yes
Text wrap	No	Yes
Bookmarking	Yes	No
Creation of charts and graphs	Yes	No
Creation of envelopes	Yes	No
Creation of numbered lists or bullets	Yes	No
Document information and statistics	Yes	No
Drag-and-drop editing	Yes	No
Equation editor	Yes	No
File find	Yes	No
Grammar check	Yes	No
Macros	Yes	No
Multiple documents at a time	Yes	No
Outlining	Yes	No
Sorting	Yes	No
Word Art	Yes	No

As can be seen from the comparison table, there are more features which Word for Windows 2.0 can offer while PageMaker 4.0 cannot. And these features, like numbering and bulleting, envelope creation are, in my experience, very useful, or handy, ones in our everyday communication in the workplace. Even with features that are absent Word for Windows but present in PageMaker, Word has its solutions for most situations. For example, text rotation can be handle in word art, with even great flexibility; mini-save and master-page can be user-definable by means by regular timed save and header and footer respectively.

McClelland (1992) observes:

> Most of us use word processors strictly for entering, editing, and formatting text, but the current programs enable you to do much more than process words. Most allow you to design publications, some let you draw graphics or create tables, and a few go so far as to offer limited multimedia functions. (p.248)

While McClelland may be correct in pointing out that most WP users are not taking full advantage of many of those high-end WPs they are using there is no doubt on the other hand that more and more WP users are beginning to use these more formatting, design and graphic features to the extent that they are using a WP in the same way as they are using a DTP package.

It is clear that DTP or high-end processing has come to play an increasingly important role in every situation where documents, paper-based or electronic, have to be produced and distributed. Watts (1993) describes how his position changed when he was made editor of a new publication. Watts is an assistant professor of English at Butler University and is also a professional typesetter. He used to be very skeptical about the potential of DTP, but the recent development in hardware and advances in software have made him change his mind. With regard to DTP in academia, he says,

> ... both academic institutions and academic writers need to come to grips with this new technology and what it means for their work. We need to find ways to accentuate the positive and eliminate the negative aspects of DTP. (p.460)

My idea is that DTP and WP are merging and are becoming a very commonplace writing tool everywhere in the workplace. We have an urgent need for DD training as a response to the increasing use of DTP and high-end word processing packages both for personal and corporate use as technology penetrates the home and the office, let alone the academic field.. In an advanced or post-secondary level workplace communication course where computer-aided writing is already included, i.e. where learners are already working with a word processor for producing writing, I would not hesitate to recommend that a place for DD training should be sought, and indeed argue that DD training must be incorporated.

The inclusion of DTP in a computer-aided writing class will offer great benefits to learners learning writing. According to Williams (1991), DTP motivates learners, improves the quality of learner writing, increase awareness of document design, and offer possibilities of generating good quality of class materials. I cannot agree with him more.

3.0 Planning for DTP training at CPHK

The DDS module in the HDEPC course is, as mentioned before, the first of its kind in any EPC course in Hong Kong. A lot of room is there for experimentation and research in order to optimize the role of the module in the EPC course. Personally I am extremely delighted to have a chance to organize and coordinate this module and be involved in planning both the pedagogy and the physical setup of the document design studio at the City Polytechnic.

CPHK is a heavily computer-based environment. Students here are given extensive on- and off-campus computing support and word processors have certainly influenced the way students learn writing and teachers teach writing. A number of writing-based modules have been seen to include process writing laboratories, where students complete a writing task at a computer terminal in front of the teacher. As a student finishes writing a draft, the teacher scrutinizes it and gives feedback to him/her immediately so that he/she can proceed to make whatever revisions appropriate. DTP packages have had the same influence as more and more people would like to make

their documents more attractive and as more and more WP packages are moving to the DTP end.

At CPHK, a variety of word processors have been installed on a student network so that students can use them for writing and for completing their document-based assignments. These include WordStar, WordPerfect, Microsoft Word for DOS and Microsoft Word for Windows. In a survey that I carried out with 85 higher diploma students from the Division of Technology taking servicing workplace communication courses, 43 were using Microsoft Word for Windows 2.0, 30 WordPerfect 5.1, 9 WordStar, 1 Microsoft Word 5 for DOS. This indicates that no matter whether students are doing writing for a particular language module or on their own, the DTP-oriented packages have had a significant role to play. My observation of and interviews with my own students also showed that there was an increased concern on formatting texts, including fonts and paragraphs, when students are using word processors with a greater capability in formatting. And students tended to carry out formatting while they were writing instead of after they finished writing.

This little survey of mine shows that the DDS module in the HDEPC course at CPHK is a timely reaction to a hidden demand. It may be a little strange that the module comes in the hands of a group of English language teachers who have not been formally trained or are expected to have been trained in teaching or training the use of computer hardware or software. Fortunately though, a scrutiny of the course document reveals to us that it would be wrong to treat the module as any kind of computer-related training. The objectives of the module set out are as follows:

1. develop students' knowledge of document design principles
2. give students advanced experience in document production
3. acquaint students with document design terminology to facilitate interface with production specialists

3.1 Planning for the module

The DDS module at CPHK will be offered as a 28-hour module in the second semester of the 1993-94 academic year. As far as planning for this module is concerned, there are two different aspects. First, there is the pedagogy and contents of the module, and second, there is the physical and computer setup of the studio, which of course must match the pedagogical contents of the course.

3.2 Key issues considered

Since DTP encompasses skills from different disciplines, how can any training be carried out in an effective way in such a short time as allowed by the module. As we know, as the learner writer gains control over the entire publication process by working with a DTP package, he/she is in fact taking over jobs that used to belong to someone else. If you agree that DTP can be a part of writing, this new add-on has certainly made writing a lot more complicated than writing with pen and paper. Williams (1991) says, "Where traditionally the writer's job ended, and the editor,

typesetter and printer took over, DTP now brings the writer new control." The following remarks from Sullivan (1992) will illustrate the breadth of DTP.

> Because the entire work of a publication can be mapped onto a single electronic file, DTP creates a multi-disciplinary melting pot that encourages us to rethink the relationships of the allied publishing disciplines. (p.265)
>
> DTP is also complicating our communication process and reconfigurating the ways in which we write and publish. (p.266)
>
> After all, we cannot expect any one potential desktop publisher has time, aptitude and aesthetic breadth to learn everything about all three disciplines [i.e. writing, art & design, and publication production]. (p.267)

Wahlstrom (1989) has the following remark:

> Because DTP is able to do some very remarkable things, however, its significance to teachers of writing and program directors goes beyond the simpler issue of training writers to use up-to-date technology. It provides, for instance, entry into the once-exclusive realm of the published word, and as a consequence highlights the transformation of information handling. Changes in the way information has been collected, stored, and distributed have profound implications for the way societies function and institutions are structured. (Wahlstrom, 1989, p.164)

I believe that as more and more people opt for high-end word processors of DTP packages, DTP has in fact become a part of writing. Revision of text is in fact encouraged as one works with the various formatting features as there are more revision possibilities being opened up when one starts to consider formatting of text and its integration with graphics.

So, it appears that a lot planning and serious thoughts must be given before one contemplates to offer any DD training in any workplace communication curriculum. When we considered the pedagogy of the module, the following are the key issues that we had taken into consideration.

3.21 The changing definition of writing

Ruszkiewics (1988) talks about how graphic-based word processing software has potentially challenged our text-based view of writing. Sullivan (1991) argues that desktop publishing programmes, which give us control of the entire page, and thus control of both visual and verbal meaning on the page, change the definition of writing and potentially challenges theories of composing. (p.137) Personally, I think this is true. The tasks of a writer, professional or learner writer alike, no longer deal only with words. There is a natural tendency when working with a word processor to pay attention to and make an effort to enhance the appearance of the text. This

tendency is obviously nonexistent when one is working with pen and paper. So, writing has changed.

In a workplace communication course, students have to complete quite a number of writing tasks. At a certain time, they may have finished some tasks and are working on some others. The DTP training module can be taken as an extension of these writing tasks. These writing tasks can come in different modules, some of them offering computer writing labs while some not. In the present DDS module, I suggested using some of learners' own writing products, preferably those done in a computer lab in other modules, as the basis for DTP to build upon.

3.22 The changing roles of teachers

The little anecdote presented by Rodrigues and Rodrigues (1989) is an inspiring one and I think I should retell the story briefly here to illustrate my point as well. The anecdote goes like this:

Some time ago, a graduate student who went into a new computer laboratory was considered rude by the teacher having class there and was told to leave. Though he complied, he later complained to the lab director and said that the teacher was not teaching. When the lab director asked what made him feel no teaching was taking place, the student replied, "All the students were doing was typing."

So Rodrigues and Rodrigues have shown us using this anecdote that WP is changing the way students write. I might as well use the same anecdote to illustrate the changing roles of the teacher. The student felt that the teacher was not teaching because the teaching that was going on did not match his perception of the roles traditionally attached to a teacher. There was no lecturing, nor was the teaching manipulating with any teaching materials. But was teaching going on? Of course, we would say 'yes'. It is a different kind of teaching, where the roles of the teacher have changed.

In a DD studio, the teacher should be taking on new roles as well. He should essentially be an activity organiser, a monitor of learner activities, a critique on publications in progress, a feedback giver, a prompter to smart DTP techniques, and a strategies facilitator for more efficient and effective communication with DTP technology.

Apart from all these pedagogical roles, maybe the DTP teachers should at times assume some clinical roles. Among a class of learners, it can be quite sure that there are some technophiles, or hackers, who are very keen on the technological aspects of DTP, and could pick up really fast. On the other hand, though, there could be some who have technophobia. With these learners, the teacher role as a 'psychopathologist' must not be overlooked. Strict deadlines, harsh assessment, why-don't-you-prepare, or why-don't-you-look-up attitudes could be threatening and disastrous to learning. Patience, encouragement, pad-on-the-shoulder type of advice and help could no doubt help learners break their threshold of development from a novice to a total desktop publisher.

3.23 The product and process view of electronic coursework

In the traditional writing class, teachers assess students' writing by looking at the product of writing. As process writing becomes popular, more and more teachers have started thinking about students' writing process and assessment of writing has begun to include the process on top of the product of writing. When it comes to DD training, should assessment be product- or process-oriented? I believe both.

The point of using DTP is to make documents look more attractive, professional and appealing. The product should therefore no doubt be a yardstick of how successfully students have been able to master DTP technology to achieve these objectives. However, the product in the form of paper-based documents can be a disguise, particularly on a PC platform. What we need is the electronic file that generates the hard-copy product, or what we can call electronic coursework. For example, the use of blank spaces or tabs in a text-based document may produce products of identical appearance, but of course more credit should be given to a good mastery of tabs and indents on the page as the use of spaces only represents a very primitive level of use of the technology, the success of which has to depend on a lot of trials and errors.

And then there is still the process we have to look at. When dealing with a publishing task or project, things like planning, scheduling work, meeting deadlines, team cooperation, and problem-solving etc are important components of the working process. I believe they should all be taken into account when learners' coursework is assessed. A learner who better manages the process should be given credit as DTP calls for a lot of discipline in the various aspects of its work process.

3.24 Institute resources

As I mentioned earlier, the DDS module is only a semester module lasting 28 hours, which spread over 14 weeks. Yet the resources that have to be fed into it could be enormous. The studio setup is a big cost. At present at CPHK, we have made orders of computer hardware and software, including software license fees, and furniture, up to a cost of HK$1.2 million and yet the studio when completely set up can barely be considered adequate. The strain of the DDS on institute resources is very great. Not only that it is a big investment, but it is also a long-termed commitment. Technology is developing fast and next year we can almost be certain that there are new hardware and software that should reasonably go into the acquisition list. This I can see as a major obstacle to DD training. Any institution interested in developing DD training must first think of its cost, not only in the initial outlay, but also in the future maintenance and upgrade. The financial and resources commitment to the development of a rich and healthy DDS should not be overlooked.

3.25 Inter-module collaborative marking

It is obvious that the focus in this 28-hour module for DD training should be on DD, rather than on writing. But then DD has to rely on writing, as I mentioned before. So here we have a choice. Should learners be working with text written by other people, what I would call clip-text, or with their own text. There is an obvious advantage in having students to work with their own text. This is where the first two advantages of

DTP mentioned by Williams (1991) come in. We decided to go for learners' own text. And this leads to the question: where can these texts come from and this leads us to consider the issue of inter-module collaborative marking, meaning that students assignments in the DDS module will tie in with writing assignments from other modules in the HDEPC course. A grade will be given for their writing, by their writing teacher. Another grade will be given by the DDS teacher, for document design.

3.26 Electronic communication between teachers and students

Novice users of DTP packages are sure to have lots of questions to ask. "How could I control the idents in the paragraph?" "How could I have the computer generate an index?" "I have tried this, but it doesn't seem to come out all right. What's the trick there?" All these are typical questions that learners may ask. If we were to arrange face-to-face teacher-student consultation time, it could take up a lot of the teacher's time, and this time might even well exceed the lesson time of two hours a week. So, we have decided that consultation would be impossible, but we would like to encourage our learners to communicate with us on e-mail, if they had any problems over the week working with their task or project. The hidden agenda here is to have them develop their own problem-solving strategies and, if it is something that is worth going to e-mail, to have them write down their problems clearly, which could in fact help them review the problem in greater depth and maybe discover their own solutions before the teacher gets back to them.

3.27 Self-accessibility

Those who are experienced with DTP will certainly agree with me DTP could be a very good past time. It could take up a lot of your time once you start work and get immersed in it. In 28 hours' class time, which could be barely sufficient time to produce a company newsletter, we have plans to get students involved in tasks and projects of different types. To make this possible and beneficial, I believe the DDS should be made self-accessible outside class time. The experience of burning the midnight oil working for a publication project, which is not uncommon in real life, should perhaps be met in training time. I also believe that if self-accessibility of the studio is not materialized, learners' DTP experience might be cut by at least 50 per cent.

3.3 The approach and contents

Sullivan (1988b) has developed a model for the conceptual training of what she calls "total desktop publishers". Her model aims to train writers to become desktop publishers and she argues against the adequacy of procedural training where learners are only trained on the 'how-tos' of DTP packages. Personally, I agree with Sullivan and I will target my course to map on the model of conceptual training of total desktop publishers.

In my module, I have decided to adopt the following approach of training and would like to advocate the use of this approach in any similar DTP training integrated into an

EPC or advanced workplace communication course. Let me call this the ITC approach, short for '**Input - Tasks - Critique**'. Given the short duration of the module, only 28 hours in all, INPUT should come least in the form of lecturing. Instead, what I suggest is to assign students with reading assignments related to selected themes or topics in DTP. Students should read the assigned article or chapter before coming to class and then there will be a discussion of some of the key issues involved, which will be started off with preset questions. To tie in with the working schedule of the module, I think it is best to have about 13 different topics so that each topic could be dealt with in two weeks' time, leaving the last two weeks for a heavier end-of-project task to be tied in with the Project module of the course. The discussion time takes about 45 minutes, leaving 2 hours for tasks and another hour at least for peer critique.

With this approach, we expect that the training

is

document design training
process- as well as product-oriented
learner-oriented
doing
possibilities
to relate closely to other modules in the HDEPC course

and is not

computer software training
graphic design training
writing training
product-oriented
teacher-oriented
lecturing
a set of rules
to stand alone.

The teacher offers possibilities, and not rules, and coordinates student projects and tasks, rather than impart knowledge by lecturing. He should also react to learners' work as a human being, rather than as an expert in any one field. On the other hand, learners learn by doing, and not by listening. They see possibilities, rather than learn rules. They think critically and are aware of conventions, rather than follow them. They choose their own software for particular tasks, rather than simply learn to use a single popular package.

Tentatively, the following 13 topics have been fixed:

- When to go desktop publishing
- Document design: definition & overview

- Basic DTP features
- Page layout and design
- Typography
- Use of graphics and color
- Working with tables
- Working with stylesheets
- Advanced DTP features
- Input and output considerations
- Interface with production specialists: camera work, color separation and printing
- Computer-aided presentations
- Future possibilities in desktop publishing: a step into multimedia technology

DTP is not everything in designing and producing documents for communication. In this module, learners must be alerted to the fact that there are other people and things that can come to have a significant impact in publishing. Stakeholders in publication projects, who very likely understand very little but demands a lot from DTP, could be one. The limitations of the technology could be another. For instance, with DTP at the present stage of development, there are still a lot of WYSI-not-WYG situations, or as Angermeyer, (1987) points out, DTP is very often WYSIWYSOG (what-you-see-is-what-you-sort-of-get) only. Learners should be made aware, too, of the fact that DTP hardcopy outputs are very often only black and white, with the cost of color laser printing being affordable to large corporations or products of a very extensive circulation. There are still a lot of mechanics that could well escape the most sophisticated spell checkers and grammar checkers. Most important of all, learners must be made prepared to accept that when he gains control over the many facets of publishing, he is taking on more responsibilities, and the time and effort that he has to set aside for a publishing task could be unimaginable great. As Sullivan (1988b) puts it:

> The total desktop publisher gains control over the publishing process, but at the cost of taking responsibility for that process. (p. 268)

3.6 Planning for the studio

3.61 The studio setup

When it came to my hands, the planning concerning the studio setup has been done. What will go into the studio, including hardware, software, and furniture have been decided on an administrative level, in consultation with experts in the Computer Center
of the polytechnic and a number of teachers who will be involved in teaching the module, including myself.

It is unfortunate from my point of view that it was decided that the 54-square-meter studio will be set up basically on a PC platform. Realizing the generally recognized power and accuracy offered by the Apple Macintosh machines, I have tried my best to convince the decision-making people that Macs should not be left out of the picture. The final outcome is that we will start with a PC-based environment, with 25 learner

workstations equipped with IBM-compatible 80486 machines with 16 Mb RAM on board and independent 230 Mb harddisks. This setup, I believe, is a modern and very powerful one Indeed, it will allow for upgrading easily in many years to come. The decision to go for a PC-based environment certainly takes into consideration of budgetary constraints and the popularity and penetration of the PC in the home and the business sectors, which I believe is still a very sensible and well-grounded decision to make.

Apart from the PC platform, it was finally decided to put in a Mac Quadra 800 as a start. More Macs will be acquired, I hope, as the studio develops and as more budget is laid onto the studio in the coming years.

The learner workstations will be fitted into the studio in an around-the-wall-design, which allows the teacher to be able to monitor the work of the learners and to have an easy grasp of what learners are doing as shown on the screen of their workstation. There will be work desks in the center, where learners can get together for group discussion or working with hard copies of their documents. Figure 1 shows the tentative layout plan of the studio in greater detail.

[Insert Figure 1 here.]

The learner workstations will be networked on a Novel system and will theoretically allow data switch from one workstation to another or to the teacher's desktop for display via a data-show pad and OHP. There will be a lot of room, therefore, for peer comments, and peer critiquing to go on in the studio.

3.62 The software

As I mentioned before, I believe students should have the freedom to choose their own DTP or presentation package for a particular DD task or project. This argument of mine is based on the fact that we in the real world are free to choose our own package available on the market. No doubt, each package has its strengths and weaknesses. To accomplish a particular task, one package may have definite advantages over another package. Allowing learners freedom of choice does not automatically mean that they have the knowledge to base their choice on. To facilitate this, software reviews from computer and DTP journals will be a good place to rely on for information. For this purpose, a bibliography will be assembled, which will include a list of the relevant review articles. Software review and update must be carried out from time to time in order not to lose track of developments in the field, which nowadays can be incredibly fast. A primitive bibliography is attached to this paper in Appendix A.

Knowing how to choose the appropriate package for a particular job or project does not mean that the student can use the package effectively. It may or may not be available in the DD Studio. So far, we have spent over 1.2 million HK dollars in setting up the studio. This includes the costs of hardware, software, and furniture. Though it looks like a very large sum of money, and as a matter of fact, it is when compared with other laboratory setups in the polytechnic, the following list of software packages that will be available seems thin.

PC platform

Aldus PageMaker
MS Powerpoint
MS Word for Windows
Aldus Freehand
Aldus PhotoStyler
CorelDraw
Micrografx Designer
Harvard Graphics for Windows
WordPerfect 5.1

Mac platform

MS Office (Word, Excel, PowerPoint)
Aldus PageMaker
QuarkXPress
Aldus Freehand

A lot more, as I can see, is still needed in order to be able to provide this idealized freedom of choice for the learner. In this connection, I have put the following into the acquisition list for the next year.

QuarkXpress for Windows
FrameMaker for Windows
Ami Pro

3.63 Supporting resources

Apart from hardware and software, a number of DTP-related periodicals and newsletters have been subscribed in addition to the wide range of computer journals already available in the polytechnic library, and attempts will be made to arrange for these publications to be put in the DD studio so that easy and quick reference could be made. A list of these publications is included in Appendix B.

If possible, I think there should be a systematic archives of students' work in an electronic form. At present, we are faced with the problem of lack of Mb-intensive storage devices. In future, it is hoped that floptical disk drives could be acquired to solve the problem. Today, some floptical disks can hold 256 Mb of information on a single disk. If this archives system can be set up, students in the future will be able to review what past students have done and learn from their products. Initially, publication product from commercial DTP houses could be collected for reference if these publishing houses could be persuaded to lend us their publication files, though they are most in the Apple Macintosh format.

I have also given some thought about arranging visit to professional DTP houses outside of class time. What else could be better than personally seeing the publication process in action if we want the learners to have a comprehensive picture of what is

going on with DTP in the real world. I think a visit as such has a great value in a module of this kind and should be a top priority.

4.0 Conclusion

I hope I given you a picture of what we are attempting to do in setting up a DDS module in a HDEPC course. I am going conclude my paper with a look into the future of DD training in Hong Kong. It is my belief that DTP helps writing and writing is enhanced by DTP. Learner writers at the post-secondary level working with computer-aided writing should be trained as a total desktop publisher. A studio like the one that is going to be set up at CPHK, I believe, offers a good, though not perfect, model for other similar institutions. I strongly recommend that a place in other post-secondary EPC curricula for DD training should be found along with other training or teaching in writing. Where there is writing, there should be DD training. That's my point.

Information technology is developing fast. What is the use of it if it is not taken advantage of to enhance human communication. One very important roles of information technology, as I see it, is improving the way documents look, static or dynamic documents alike. As the cost of the technology drops, it will not be long when we will have better and powerful machines to cope with the writing, publishing and communication needs of our students in professional communication. Lower-priced flat-bed scanners, more accurate optical character reading hardware and software, more sophisticated image digitizing facilities will open up more venue for inputting information to a document, in the form of text, graphics, animation, static photo images or even clips from a home-made or commercial movie. Large-capacity optical storage devices and CD-rewritable technologies will give new support to cope with information storage and retrieval problems. I am sure we will see the CD-ROMs, CD-Is, interactive video, artificial intelligence, and other multimedia technologies entering the DD studio, offering even more and more possibilities in putting together more attractive and presentable documents, in assembling and distributing them, and hence improving and facilitating communication in ways we have never before imagined. If only we would not be beaten by costs!

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Software cited

Aldus Freehand
Aldus PageMaker
Aldus PhotoStyler
Ami Pro
CorelDraw
FrameMaker for Windows
Harvard Graphics for Windows
Micrografx Designer
MS Office (Word, Excel, PowerPoint)
MS Powerpoint
MS Word for Windows
QuarkXPress
QuarkXpress for Windows
WordPerfect 5.1

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Various user manuals for high-end word processors and DTP packages.

Appendix B Periodicals and newsletters

Communication Arts
Coyne and Blanchard, P.O. Box 10300, Palo Alto, CA 94303, USA.

Business Publishing
Hitchcock Publishing Company, 191S Gary Ave., Carol Stream, IL 60188, USA.

Publish
501 Second St., San Francisco, CA 94107, USA.

Print: America's Graphic Design.
RC Publications, 104 Fifth Ave., Ninth Floor, New York: NY 10011-6998, USA.

Before and After: How to design cool stuff
PageLab, 331 J St., Suite 150, Sacramento, CA 95814-9671, USA.

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