Doing it with Style: Structured Document Creation from Word Processing into HTML

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ABSTRACT

This paper describes the teaching and use of advanced word processing features for students studying a paper that consists of primarily theoretical information management topics. It is a description of developing practice that has improved student understanding of a number of related topics.

Students are introduced to outlining and styles in order to encourage a more structured approach to document creation. The concepts involved provide assistance in the subsequent teaching of Hypertext Markup Language (HTML) skills. The paper describes the tutorial expectations as well as the sequencing and content provision involved.

Students introduced to structured writing techniques utilising electronic tools are sometimes negatively influenced by previous experiences of manual systems. Relating the work to contemporaneous classroom experiences in report writing and group work provides additional motivation.

Keywords

word processing, outlining, styles, structured writing, stylesheets, HTML

1. INTRODUCTION

The New Zealand Diploma in Business 255 - Information Management paper has been the vehicle for the incorporation of structured writing techniques for students in a business management programme. Introducing concepts of structure for these students has created a practical example of the separation of content and appearance, as well as providing advanced word processing skills, enabling the students to prepare well-organised and nicely presented reports.

This paper describes a developing "best practice" for the teaching of structured document creation. The paper documents the sequencing currently being developed from outlining with a word processor through to HTML and stylesheets. Based on this preliminary work, the author is now convinced of the value of emphasising the underlying structure of documents as a common point of understanding for students. Future work will attempt to standarise the sequencing and methods employed, as well as evaluate them in a more formal way.

2. EXPERIENCE OF THE STUDENTS

2.1 Students' Experiences of Outlining

From an informal survey, the writer determined that only one student in the class had used any form of outlining in recent work. Most remembered having been taught how to create outlines, generally in the far distant educational past. The emphasis for most of them appeared to have been with consistency in numbering schemes, rather than the overall value of structured document creation.

Outlining was taught almost as an end in itself, rather than as an integral part of the writing process. Part of this can be attributed to the nature of creating an outline with pen and paper, as described by Price (1997a):

"For most of the twentieth century, teachers and textbooks have urged students to make an outline before writing. The authorities' picture of an outline, though, was heavily if unconsciously shaped by its medium ... Because handwriting is tedious, few people are willing to rewrite the whole outline to make a few changes, so this paper document often ends up with extra arrows, loops, and speckled crossings out-a hard-to-read mess."

Students remarked on the rigorous inflexibility of the outlines they had made, commenting that creating an outline with pen and paper was 'a job on its own'. No one initially perceived the differences and value that could come from utilising outlining within an electronic environment.

2.2 Students' Word Processing Capabilities

The students come into the 255 - Information Management paper with medium-level word processing skills, though some will have more and a smaller number will have minimal skills overall. Each student will have successfully completed the 150 - Computing Concepts paper, though the depth of experience before and after that programme would appear to have a more marked impact on their knowledge of word processing.

No students in the class had previous experience in the use of word processing styles or outlining. While most were aware that a word processor was able to do such things as create a table of contents automatically, none had actually used the facility, nor the features of defined character and paragraph styles.

While Windschuttle and Elliott (1999) might often enforce the values of 'manual' systems, belying the use of the subtitle 'Communication Skills for the Information Age' for their book, they do reiterate the value of the table of contents, saying "the outline or table of contents, is an essential contribution to understanding by allowing the reader to see the report as a whole". Once taught to create a table of contents automatically, it would never be done manually again.

3. REASONS TO TEACH OUTLINING AS A COMPONENT OF INFORMATION MANAGEMENT

3.1 An Introduction to HTML

The 255 - Information Management paper includes the teaching of basic Hypertext Markup Language (HTML). The purpose is not to provide extensive specific skills, but rather to supply a cognitive framework and understanding of the division between content and appearance.

Teaching elements of outlining using a word processor prior to this has provided a useful linkage for many of the students. The use of the heading styles of Microsoft Word (Heading 1, Heading 2, and so on) prior to the introduction of the heading styles of HTML (<h1>, <h2>, <h3>, and so on) has improved student understanding considerably. The parallels in usage and intent have made it easy to introduce tags for formatting as well as, ultimately, the use of stylesheets for HTML.

3.2 Organised Presentation of Ideas

While there are certainly differences of opinions, many educationalists still favour an approach to writing that involves structuring. In reviewing relevant literature, Price (1997b) concluded that "Recent scholarship on the pedagogy of arrangement tends to focus on the development of structure, rather than on outlining as a tool, arguing that a concern for structure can take us beyond the patterns-of-development approach, and engage the rhetorical situation as part of a process orientation."

Flower and Hayes (1981a, 1981b) criticised the use of outlining as a product based plan, "when the composing process is governed by a concern for the form of the finished product." With the level of self-awareness of the writing process demonstrated by the students in the course concerned, this writer does not consider that would be such a bad thing.

Many students, even at a tertiary level of study, have distinct problems in both starting to write reports generally, but particularly in organising their various notes and thoughts into a coherent whole. The nature of the writing to be undertaken is, in fact, generally of a fixed form in terms of headings (Executive Summary, Introduction, Discussion, Conclusions). Encouraging a student awareness and focus on the expected form

of the final product would not have the same detrimental effects of teaching it to students in a creative writing class, for instance.

3.3 Developing an Approach to Report Writing

Two other papers in the New Zealand Diploma in Business programme involve formal report writing. Both 140 - Business Communication and 130 - Organisation and Management expect students to write formal reports. 140 - Business Communication generally teaches theoretical aspects of structuring, but no attempt it made to introduce the use of electronic tools such as outlining or advanced word processing functions. Tutors for 130 - Organisation and Management insist upon students producing reports with outline numbering (1, 1.1, 1.2, 1.2.1, etc). Unfortunately, little attempt is made to facilitate the uptake of the word processing automation tools that would so dramatically assist the student.

In the 255 - Information Management course, reports are expected on technical topics, related for the most part to the use of information technology for specific strategic advantage in a business environment. By encouraging the use of outlining and styles, it has been found that the students are able to more effectively concentrate on the actual content of their reports, as they are not being continually distracted by the process of creating and maintaining the numbering systems involved.

In introducing concepts of report writing for technical writers Karplus & Scripture (1998) are careful to make the point that using an outline should not be a simple fill in the blanks exercise. It is important to clearly make the point that headings should be meaningful, particularly in the discussion sections of a report.

4. SEQUENCING AND METHODS OF TEACHING

4.1 Introduction to 'Paper Based' Outlining

Though many students have only a poor regard for outlining, based on their previous experiences of creating an outline on paper, the writer does initiate the topic by making a simple paper based outline with the students.

The limitations of paper-based systems become immediately apparent again for the students, with changes being difficult or messy (or both).

The writer intentionally creates a situation where the lack of complete information requires a subsequent revision of the outlines being created. Students struggle with methods such as arrows and inserted text to add the additional material. When the transition to using the computer based outlining system is then introduced, the experience is as described by Price (1997b):

"Outlining on the computer rather than on paper, one can create a much more visible hierarchy, not cramped by handwriting, tiny labels, and irregular indentation, and one can investigate it immediately by changing order, level, phrasing, or sequence without recopying, scribbling over, or drawing arrows."

4.2 Styles and Outlining with a Word Processor

Few students ever have an immediate or intuitive grasp of the concepts of styles in Microsoft Word. While many, even most, students are able to understand many document production techniques, they seem to comprehend fastest and most fully those that they can relate to simple typewriter type use. Stroo (1994) describes the use of styles under the heading of 'Word Hurdles', identifying it among the 'rough spots' for novice users.

The relationship of styles (especially paragraph styles) to both outlining and automatic table of contents generation is a natural one within Microsoft Word, but far enough removed from most student experience to make the initial tuition challenging for both students and teacher.

For the purposes of this exercise the writer chose to initially only introduce concepts of the main default paragraph styles, given that their use would provide the most immediate value to the students. Only after familiarity was gained with the styles Heading 1, Heading 2 and Heading 3 were user-defined styles discussed and used. Character styles were found to be of the least on-going value to the students.

Students have been generally unsatisfied with the default formatting associated with Heading 1, Heading 2 and Heading 3 styles. Rather than allowing them to initially encounter these, the writer has preferred to redefine the formatting of those styles in the default template that the students will use. In that way, their first use of these styles will provide formatting that they might consider more appropriate, being of a font size and style that is familiar to them as report headings in the institution.

Only after learning to apply styles are the students introduced to the various means of redefining the formatting for those styles. Redefining a style 'by

example', described as 'on the run' by Bott (1997) is by far the favoured method of style re-definition. Creating styles from scratch, or even going through the style dialog box facilities has been considered far more difficult for most students to handle.

Students are first encouraged to redefine some of the basic formatting of a style, such as font size or adding/removing the bold, italic and/or underlining attributes. A first recognition of the potential value to the students is most often expressed at this point. Most students will have laboured on other papers to provide some degree of consistency in heading styles, while relying only upon the basic formatting tools.

The Microsoft Word internal styles provide the ability to outline down the Heading 9 level, far greater than the level of complexity that most students would ever have to deal with in a written report. Students are encouraged to, ultimately, remove the Heading styles below about Heading 4 from their templates.

4.3 Outline Numbering

After redefining paragraph styles in various ways, more advanced formatting redefinition is introduced, most often in the form of automatic outline numbering.

Students in the 130 - Organisation and Management paper will have already completed a formal report, generally in the previous academic year, which required them to use the legal numbering system. Invariably, they will have done this 'manually', typing in the digits and full stops as required. The necessity to re-number all sections if changes are made to structure will be fresh in their minds. The initial tuition related to outline numbering is most often greeted with expressions of amazement, followed by bewilderment - 'Why didn't they teach us this last year?'.

4.4 Approach to Report Writing

By this stage, students have most of the tools related to styles and outlining to apply to a report writing exercise. The value and habit of changing views from Normal or Print Layout view to Outline View should be readily apparent to them, particularly if given an example document with which to work.

Aspects of expected document and report structuring are introduced, making it clear to the students that the individualised content of any given report will necessitate some degree of customisation, that the lower level headings, especially, cannot simply be repeated from one report to the next.

The writer generally at this stage suggests the use of a real assessment, involving the writing of a report, as the example for teaching as well. That is, the writer identifies for the students a means of approaching the planning of a report, incorporating it into the process of report writing.

The various headings that will ultimately be used in the report are 'extracted' from the words of the assignment description. Students are encouraged to use highlighters to identify key expectations and key verbs. 'List', 'compare', 'describe' are all discussed with the class, giving them the opportunity to clarify the expectations implicit and explicit within the assignment description.

Headings and outlining in the word processor are used to move sections, identifying for the student some degree of ultimate sequencing for their ideas. No emphasis is placed on the actual writing of sentences or body of the report. Students should remain primarily in Outline View to facilitate the structuring aspects of the document creation, rather than slipping back into the habits of 'start writing and keep going until it is finished'.

Students are encouraged to begin the note taking process directly into the word processor. For most of them, this is generally the first time they have attempted to fully use a word processor for initial drafting of a document. Even today, even with tertiary students, there is a degree of natural comfort in pen and paper.

4.5 Introduction of HTML and Stylesheets

After a number of weeks of experiencing the outlining and style features of Microsoft Word, the students are introduced to basic HTML document creation.

By choice, the initial editor is Microsoft Notepad, reinforcing the nature of a 'tagged language' being simple ASCII text, accompanied by the tags which are also in ASCII text.

After working with Microsoft Word heading styles, the students have an affinity for the <h1>, <h2>, etc styles of HTML. The students have an immediate grasp of the importance of structured presentation of the text, and the means of identifying the relative importance of headings.

There are generally some problems encountered with students resisting the use of HTML, questioning why some aspects should be so much more difficult to implement than an equivalent example in Microsoft Word. Their previous use of outline numbering, for instance, makes them keenly aware of the complexity of emulating the same thing in HTML.

After initial HTML tuition, the students are keen to create more advanced formatting. The writer's teaching strategy involves the replacement of heading tags with

complex <font> tags, complete with a plethora of attributes to accomplish the expected formatting.

Almost immediately, however, the use of stylesheets is included in the classroom experience. Students again are readily able to utilise these features, recognising their parallel equivalents in Microsoft Word. The documents created revert back to the use of heading styles, with the formatting restricted to the stylesheet itself. The separation of content and appearance is an easy one for the students to understand and use in a practical manner.

5. CONCLUSIONS

The use of advanced word processing functions can easily and with value be added to the tuition of the 255 - Information Management paper. While not strictly a component of the curriculum, features such as styles, outlining and the related aspects of table of contents generation and outline numbering provide a considerable 'added value' for the students.

The value for the teaching comes primarily from the linkages with the curriculum that are possible. The concepts of HTML and tagged presentation languages in general are considerably facilitated by the prior use of advanced word processing features.

Perhaps more importantly, the features are able to encourage a more serious approach to the concepts of structured writing. If the mechanical difficulties of manipulating text are minimised through the use of word processing features such as outlining and styles, students are more willing to undertake the revision and modification of draft material into final polished form.

And as their tutor? The improvement in content of the reports provided have made it all worthwhile.

REFERENCES

BOTT, E. (1997): Using Microsoft Office 97. Indianapolis, IN, USA, Que Corporation.

FLOWER, L. & HAYES, J.R. (1981a): A cognitive process theory of writing. College Composition and Communication 32:365-387.

FLOWER, L. & HAYES, J.R. (1981b): Plans that guide the composing process. In Writing: The nature, development, and teaching of written communication, Volume 2. FREDERIKSEN, C.H. & DOMINIC, J. (eds.). Erlbaum Press.

KARPLUS, K. & SCRIPTURE, D. (1998): Workbook for CMPE 185 Technical writing for computer engineers and computer scientists. Available online at http://www.soe.ucsc.edu/~karplus/185/f00/reader/CMPE_185_Workbook.html

PERRY, G. (1997): Teach yourself Microsoft Office 97 in 24 hours. Indianapolis, IN, USA, SAMS Publishing.

PRICE, J. (1997a): How electronic outlining can help you create online materials. Conf. Proc., 15th Annual International Conference on Computer Documentation, Salt Lake City, UT, USA, 211-216, Special Interest Group on Systems Documentation (SIGDOC).

PRICE, J. (1997b): Electronic outlining as a tool for making writing visible. Computers and Composition December 1997:409-427

STROO, E. (1994): The ultimate Microsoft Office book. Redmond, WA, USA, Microsoft Press.

WINDSCHUTTLE, K. & ELLIOTT, E. (1999): Writing, researching and communicating. Sydney, McGraw-Hill Book Company.