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The Use of Narrative to Provide a Cohesive Structure for a Web Based Computing Course

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Abstract:

Narrative has long been used as an educational tool. This article explains how narrative, in the form of popular accounts, has been used to provide context, structure and broad appeal to a large-scale, entry-level university course on Information and Communication Technology (ICT). This course is delivered via the web with online tuition. Students' responses to the use of narrative and the scope of the material has been encouraging. It is argued that narrative performs an enculturation function that is often under-utilised in ICT education.

Keywords:

Distance education, education and narrative, enculturation, web-based courses.

Interactive materials:

An introduction to *T171: You, Your Computer and the Net* is available at:
<http://t171.open.ac.uk/pres/>

An example Study Guide from this course is also provided in the Appendix.

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1. Introduction

Over the past few years there has been a dramatic increase in the use of hypertext, and the world wide web in particular, for course delivery. As has been identified elsewhere, creating an entirely on-line course is not an inexpensive option and is not merely a matter of translating material from one medium for use on the Internet (Petre, Carswell, Price and Thomas 1998). Rather, it involves transforming the material, pedagogy and administration to take best advantage of the medium. Web-based courses raise a number of issues which need to be addressed successfully if student needs are to be met. These include providing sufficient and suitable support structures, promoting changes in student and tutor behaviour, providing different types of assessment, developing new roles in course production, ensuring quality control, as well as the obvious need to rethink the pedagogy of any course delivered via this medium. Failure to address these adequately can lead to frustrating experiences for students (Hara and Kling 1999). In this article, I describe how we used narrative to address a few of these concerns, namely pedagogy and structure, in the design of a particular web-based course developed at the Open University in the UK - T171 *You, Your Computer and the Net*.

The Open University in the UK (UKOU) is a distance education university with over 150,000 students enrolled annually. Learning materials are centrally produced by course teams to an academically high standard, and presented in an open learning style that is accessible to people with no previous academic qualifications. Principally such learning materials are printed units, with television programmes and CD-ROMs as supplementary items. The university divides administration into thirteen geographical regions and students are assigned a personal tutor, usually in their geographical region. While most study takes place independently using the provided materials, students can also attend a number of face-to-face tutorials during the year, and some courses have a mixture of computer-mediated conferencing (CMC) and face-to-face tutorials.

The course, T171 *You, Your Computer and the Net* is delivered entirely via the Internet, with the UKOU-produced course material being available via a web site and tutorials conducted via computer conferencing. The course was piloted in 1999 with 900 students. Assessment on the course consists of four Tutor Marked Assignments (TMAs) and an End of Course Assessment (ECA) in place of a conventional exam. UKOU degrees are modular, based on credit points, so a student can mix courses from different academic disciplines. T171 is intended to have broad appeal, so that it is suitable for students taking any degree profile, not just a technology or computing one. As it is an entry level course, many of the students will be completely new to computing and many will be new to study or returning to study after a long time. Thus, as well as teaching domain content there is also a responsibility to develop general study skills which will be useful throughout the student's academic progress. As such, the course team was faced

with a number of design challenges which needed to be addressed if the course was to be successful. These can be summarised as:

- Producing an ICT course with broad appeal whilst teaching the important skills and knowledge in the area.
- Providing a coherent structure, which guides new students through web based material.
- Accommodating a range of experience and backgrounds so that the course had 'something for everyone'.

The use of narrative offered a potential solution to some of these issues. Narrative is used in the course to fulfill two main functions: firstly to provide coherent structure to the web material, and secondly to act as a means of enculturation to bring students into the general culture of ICT. Factors such as the design and structure of the web site, the use of computer conferencing to discuss relevant issues, the use of activities and assessment, the provision of structured group activities and the use of electronic assignment submission all helped to meet the specific demands of an online course and have been detailed elsewhere (Weller 2000). The use of narrative was one aspect of the overall course structure, but one with an important role in terms of course philosophy and pedagogy. It is primarily the role of narrative in the course which this article is concerned with. I will begin the remainder of this article by examining the use of narrative in education, and its wider social implications. The particular use of narrative in this course and its relation to the web materials is then detailed. Some feedback from students on the course is provided, and the use of narrative as a tool for enculturation is then discussed.

2. Narrative

There are numerous definitions of narrative. In everyday use the term is often used synonymously with 'story'. Some researchers have proposed that a narrative has two components, the story, which embodies the characters, plot, etc., and the discourse, which represents the mode of telling the story (Chatman 1978). A broader view encompasses these elements as well as contextual factors such as the reason for telling the narrative, the nature of the audience, the narrator's competence and so forth (Gudmundsdottir 1995). This situated view of narrative is one generally favoured in educational research, not least because it stresses the importance of the listener, as well as the story teller (Robinson 1981), just as the role of the learner is as important as that of the teacher in education.

Narrative has long been a tool in education, particularly that of children. Children have a well-developed understanding of, and familiarity with, narrative, since they have usually been exposed to it since birth. This thus provides a useful framework which teachers can use to their benefit. Teachers use narrative to teach children difficult concepts and to bring structure to the curriculum (Egan 1988). Gudmundsdottir (1995) has even suggested that

“Teachers live in stories. They use them in order to tell their students about some of the things they know.”

The use of narrative as an educational tool is often less explicit in tertiary education but it is still prevalent. McCloskey (1990) suggests that there are two dominant ways by which people come to understand a topic - by metaphor or narrative (or models and histories) and that different fields tend to be dominated by one mode, for instance metaphors dominate physics whilst narrative dominates biology. Whilst this may be true for certain domains, there are other fields where both metaphor and narrative play important roles, for instance in engineering education, where both mathematical models and case studies are used to good effect by educators. It is also debatable to what extent a metaphor can be viewed as a narrative structured in a specific manner. Bruner (1996) has been a long-time advocate of the use of narrative in education, particularly science education. He has proposed three primitive forms of ‘meaning-making’ which involve an individual’s spontaneous inclination to engage in a dialogue with material, to impose some form of organisation upon it and to make comparisons with an individual sense of the conventional. He suggests that narrative meets the needs of these three modes well:

“Stories are the vehicles par excellence for entrenching the first three modes of meaning-making into a more structured whole.”

Narrative has a broader significance than education. It has been shown that experts in any field tend to embody their knowledge in the form of narrative (e.g. Schön, 1983). It can be argued then that to become knowledgeable in a domain is to become familiar with its narratives, and to construct your own relevant ones.

Narratives also have an important cultural significance. Whyte (1981) states the study of narrative involves:

“reflection on the very nature of culture and possibly even on the nature of humanity itself”.

Others have suggested that narrative is a means by which we interpret our notion of self, for instance Brooks(1985) claims:

“Our lives are ceaselessly intertwined with narrative, with the stories that we tell, all of which are reworked in that story of our own lives that we narrate to ourselves...”

Similarly Fisher (1987) has proposed a ‘narrative paradigm’ wherein he suggests that stories are the method by which people impose order and reason upon the world. By framing events in a story it permits individuals to interpret their environment, and importantly it provides a framework for making decisions about actions and their likely outcomes. Individuals create new stories for themselves which “better account for their lives”.

All of these studies, in often diverse areas, indicate that the narrative form is pervasive and has a fundamental appeal. This persistent appearance of narrative as a dominant theme is one which educators can utilise. In the companion article in this special issue, Laurillard, et al. (2000) examine how narrative can be used to provide a coherent structure to multi-media materials that promotes learning and reflection. Narrative plays a similar function in T171, as well as being a tool for enculturation.

3. Use of narrative in the course

T171 is based around three modules, with two of the modules conforming to the same structure. This structure is the use of a narrative-based set text, with a web site which is then used to add academic wrap-around material. In T171 the two set textbooks (Cringle 1996 and Hafner & Lyon 1998) were both chosen because they operated at the level of narrative. They were readable accounts of the development of the personal computer and the Internet respectively. There is also a preparatory period where students who are new to computing can become familiar with the Windows environment by means of UKOU-produced booklets and audio, *Working with Windows*. The high-level course structure is summarised in Figure 1.

At a detailed level, the course structure is based around students reading a chapter of the set book and then using the web site to explore a variety of issues raised in the chapter. For instance a chapter in Cringle (1996) recounts how the microprocessor was invented and how the company Intel was founded. This is used to explore issues such as how a microprocessor operates, the social implications of the rapid change in the computer industry, the nature of the start-up phenomenon in the industry and a detailed look at Intel. The T171 Demonstration Site contains a sample of the web site from the 1999 presentation.

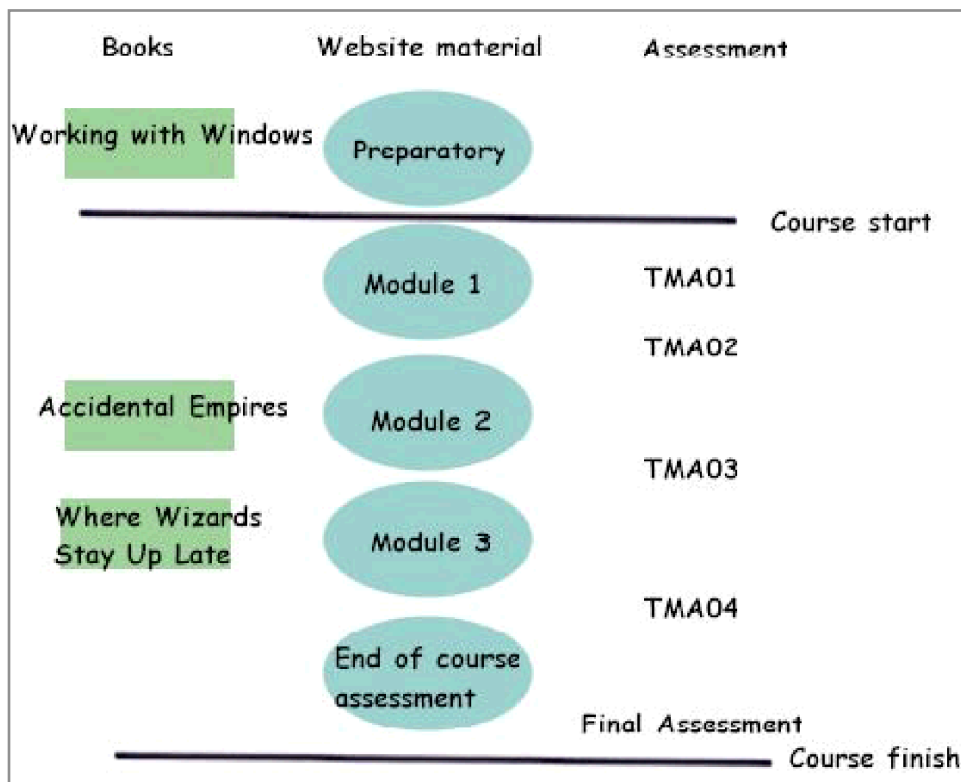


Figure 1: *Structure of the OU course T171: You, Your Computer and the Net.*

Study guides were e-mailed at fortnightly intervals, giving students explicit guidance and instructions regarding the work they should be doing (see the example Module 2 Study Guide [Appendix 1]). In modules two and three, the students adapt these study guides to create their own study journal on their hard disks. Exercises in the material involve students reformulating these study guides, according to their own categorisation, taking advantage of the possibilities offered in a hypertextual environment. From the situated view of narrative mentioned in the introduction, the set texts offer a conventional narrative format, with a linear plot, significant actions and characters, with the students forming their own narrative structure complementary to this by means of their study journal. Computer conferencing was a significant part of the course, with a number of embedded conferences within the material and a number of tutor-led group activities. Students were also directed to national conferences to discuss issues relating to the material they had just read either in the text or the web site. In this manner the nature of the discourse varied from one of conventional narrative with its benefits and familiarity (i.e.,

personal interpretation and interaction with the material) to a more social, interactive, discussion-based mode.

Laurillard (1991) makes the distinction between horizontal and vertical interpretations of text. The success of students to interpret educational material in terms of a hierarchical structure of themes, and not merely as a linear sequence of pieces of information is dependent on their ability to pick up on the cues in the material itself. In T171 these two modes of interpretation are made distinct. The set text provides the linear, horizontal structure, and can be read as a sequence of smaller stories or anecdotes. It thus provides the logical sequence of events, which students can use to impose order upon the material, as with Fisher's narrative paradigm. The web material provides both further academic material, and also the vertical interpretation of the material into more significant themes, such as the impact of new technologies upon society and the nature of technological development. This clear separation of modes makes the cues more explicit, which can benefit the often inexperienced learner encountered on an entry-level course. It also helps provide a coherent structure to the material, particularly for students who are operating in a relatively new medium, thus helping the course team to address the issue of how to guide inexperienced students through the material.

Similarly the material incorporates different approaches identified in the history of technology education. The use of the set text and emphasis on characters and context is in accordance with the contextualist approach. Staudenmaier (1985) states that a contextualist approach shows

“the internal design of specific technologies as dynamically interacting with a complex of economic, political and cultural factors.”

However, the use of web material to cover aspects in further depth also accommodates some of the more traditional “internalist approach”, which focuses on the specific function, design and construction of a piece of technology.

T171 is not intended to be a history of technology course, but rather to serve as an introduction to the use and culture of computer and communication technologies. Thus the narrative itself is not the main focus of study. The narrative provides a coherent structure, which allows the course to address diverse topics, which might otherwise seem disparate and unfocused. This means the course can address technological, social and economic issues, which help to broaden its appeal. As mentioned in the Introduction the course needed to accommodate students with diverse backgrounds and experience. This was partly achieved through the diversity of material, so for instance students who had gained some technical expertise over the years may not have considered the social or economic implications of the new technologies, whilst students from a social sciences background had the opportunity to learn skills within an appropriate context.

The two set texts both relate their narratives by providing anecdotes and opinions on the significant characters in the respective stories. This use of characters is fundamental in narrative. In T171 it helps to achieve our aim of demythologising the subject area. By humanising the topic it helps to meet the first of the issues facing the course designers, namely that of producing a broad appeal course. Also the use of characters creates a narrative which can be motivating and interesting for the student. This helps create a momentum and context for the course material which can be utilised to teach material which otherwise students may find difficult. The operation of a microprocessor is a good example of this. It is not taught in the abstract but rather as additional information, which helps further inform the narrative the student has just read.

The issue of interactivity was addressed through the use of online quizzes, user controlled animations, and development of a study journal. Students were required to keep notes on the course material in HTML format, and then at regular intervals to rearrange these notes into a different set of hyperlinked documents, according to different criteria. This encourages the student to interact with the content and think about the connections between the material in different ways, in a manner similar to that performed by the task construction and notepad in the companion article by Laurillard, et al. (2000).

4. Feedback and discussion

Analysis of enrollment patterns suggests that the course has broad appeal to a diverse population. Technology courses in the UKOU have traditionally been largely male dominated in terms of their student population, despite the attempts of course teams to overcome this. By contrast, T171 has an almost equal gender split. Similarly the age range of the participants is broad, ranging from 18 to 82 years old. Many students are new to the UKOU, and others are following degree profiles outside of Technology.

A web-based survey was performed for module 2 (the first one to make extensive use of the narrative based approach). This survey received responses from 196 students. The survey did not address the use of narrative directly, but rather was aimed at evaluating the overall module approach and effectiveness. Narrative was an integral part of the course approach, so the questionnaire relates indirectly to the use of narrative, but some caution must be exercised in interpreting the results as relating solely to narrative. Some of the pertinent questions and their responses are given in Table 1. A more detailed evaluation and analysis is now under way.

Question	Response (percent of total responses)
Have you enjoyed module 2?	A lot = 50 A bit = 36 Not much = 12 Not at all = 2
Has module 2 increased your understanding of how a computer works?	A lot = 40 A bit = 45 Not much = 12 Not at all = 3
Has module 2 increased your understanding of how the IT industry operates?	A lot = 66 A bit = 30 Not much = 4 Not at all = 0
Has module 2 increased your understanding of how computers impact upon society?	A lot = 52 A bit = 41 Not much = 6 Not at all = 1
Did you find the set book interesting?	Very = 75 Slightly = 20 Not very = 5
Did you find the set book helpful?	Very = 57 Slightly = 37 Not very = 6
Did you find the coverage of the module:	Too broad = 20 About right = 73 Too specific = 7
Has module 2 made you more interested in studying any of these areas in more detail:	Computer technology = 27 Social impact of computers = 24 Software and programming = 16 Management and business = 5 Other = 4 No = 24

Table 1: *Module 2 survey questions and responses*

The broad scope of the course is further demonstrated by the improvement in understanding of computer technology, the IT industry and the social impact of computers claimed by the majority of students. Interestingly, improvement in understanding how a computer operates was rated the lowest of these three, which may emphasise the non-technical nature of the course, or may indicate that this aspect needs further clarification (although in general it was still rated highly). The set book also seemed to be popular, and an aid to understanding for the majority of students. Lastly, this one module from the course seems to have encouraged many students to study further aspects relating to computing.

One of the aims of the course was not to produce students who were proficient in any one piece of software but rather to give students the knowledge and confidence to cope with a rapidly changing field and to feel comfortable contributing to the debates surrounding the new technologies, what might be termed “digital generalists”. Thus, the course was as much about enculturating students into the ICT culture as it was about imparting knowledge of the subject area. In this function of enculturation, narratives play an important role. As has been stated, experts in a field tend to relate their knowledge in the form of narratives, so exposure to these narratives represents an efficient and productive method for the student to become comfortable in the culture. In reviewing the importance of narrative in organisations Boyce (1996) states the following significant roles for stories:

“(a) stories are useful for new member socialization and generating commitment, (b) familiarity with dominant organizational stories can be an indicator of adaptation...”

In organisations, stories have the function of socialising new members into the organisational culture, and in defining members’ roles within the organisation. The same might be true of wider communities than organisations. Boyce cites the work of Brown (1982) who examined the use of stories amongst nurses. Her findings were that members expressed understanding and commitment to the organisation through stories, and also the degree of membership was related to their familiarity with the dominant stories of the organisation.

Similarly the situated cognition work suggested by Brown, Collins and Duguid (1989) stresses the enculturation function of learning. They claim that many traditional educational practices are flawed because they fail to take into account the activity and context in which learning takes place. They cite the use of tools as a learning process which is embedded both within the activity, and also within the culture itself, claiming:

“Activity, concept, and culture are interdependent. No one can be totally understood without the other two.”

This is particularly relevant for the aims of T171, where the course team wanted to enable people to feel comfortable both using and talking about new technology. Often people feel prevented from entering into the debates surrounding new technologies because they are not familiar with the terminology, dominant issues or values under discussion. Module one of the course aims to give students the activity to use the tools, whilst modules two and three explicitly set out to introduce students to the culture in which both the practical and conceptual tools function. By introducing students to the dominant stories of the ICT culture, it offers them a membership attribute for the culture. Similarly Mitroff and Kilmann (1975) have identified the importance of “epic myths” in helping organisations define their identity. Familiarity with these epic myths is a vital component for membership in the culture. In the ICT culture such epic myths are in abundance. The story of how Bill Gates won the contract to supply the DOS operating system for IBM computers, and thus made Microsoft the powerful company it is today, is an example of an ICT story that has become embellished and shrouded in myths over the years. Familiarity with such key stories plays an important role in making the individual feel part of a culture, and in being accepted in that culture. So, if someone wishes to become familiar with any culture, then one of the activities in the enculturation process is to become familiar with that culture’s tools and its narratives - its heroes, villains, values, and anxieties. This is a common practice in anthropology, but the author suggests that it is an equally valid approach for explaining the behaviour, outcomes and values of the ICT culture.

If metaphors and narratives constitute the two main methods of understanding, then computer education has largely been dominated by metaphors. These permeate much of computer technology, for example, the desktop interface, the waterfall software development model, the blackboard architecture and so on. Use of narrative as an educational tool has been exploited relatively little, but as the significance of computers pervades all areas of society, it may offer a practical means for contextualising the subject.

5. Related work

Web material, like that of multimedia CD-ROMs, offers advantages for teaching but also has a number of potential dangers. The potential of these new technologies means that a great deal more information can be given to the student in a variety of different media. It has been observed that this has led to renewed enthusiasm for ‘exploratory learning’ (Laurillard 1998), whereby the student develops a personal structure from a wealth of resources. This makes the process of learning more active, and personal, which can lead to a deeper understanding of the material. Such learning, however, requires a sophisticated learning approach on the part of the student, and careful construction on the part of the educator. The opportunities offered by the new technologies have often led to ‘lazy’ learning models, where the student is simply confronted with a vast resource and left unguided. This lack of apparent structure can lead to

unfocused browsing and perhaps shallow learning. It can also adversely affect the user's comprehension of the material (Plowman 1998). It has been proposed that the use of narrative offers a means of providing structure for multimedia material (Laurillard 1998).

Interaction with the learning material is generally considered to be beneficial for learning. However, Plowman (1998) suggests that it is at the "foci of interactivity" that the narrative thread is disrupted. These foci often require the user to choose from options, in effect to navigate and affect the direction of the narrative. This can lead to the user becoming sidetracked where the task of navigation itself becomes the focus of attention rather than the content of the material. Laurillard, *et al.* (2000) refer to focussing on the task syntax, rather than the task semantics in this case.

So whilst there is enthusiasm for the use of the web in teaching on the part of the educators, this is not always matched by the student experience. Hara and Kling (1999) report that one of the frustrations students encounter with web-based courses is with the technology and the structure of web material. In Laurillard's terms the task syntax becomes dominant, rather than the task semantics, that is students focus on navigation issues rather than the content. For this reason T171 adopted a very uniform web design, with a very clear path through the material. The web site was highly structured, with students directed to read specific pages by means of the study guides. Sumner and Taylor (1998) have stated that "many students can feel overwhelmed when facing a new way of working and learning." This is particularly true of an entry level course at the UKOU where students may not have previous experience with academic study, and may not have much experience with using computers or the Internet. They have proposed "meta-learning environments" as a possible solution to this, which allow students to see how diverse resources support particular learning objectives. The study guides in T171 went some way towards performing this function. The issue of overwhelming students was addressed by keeping the number of resources to a minimum (web site plus set texts), use of the detailed study guides, a strongly imposed route through web materials, and the use of narrative. The familiarity of the narrative form acts as something of a comforter when a new student is faced with the double impact of being new to study and new to the technology. This allows often relatively inexperienced learners to focus on the content, or the task semantics, and avoid the problem of getting sidetracked by navigational or technological issues.

6. Conclusions and lessons

Overall, satisfaction with the course seems to have been related to six main issues for students (Weller & Mason 2000), which can be summarised as follows:

1. Skills - some students wanted a more skill-based training course in web

development, rather than an academic-type course.

2. Starting experience - some beginners found the preparatory period insufficient, so they were not fully prepared when the course started. Some of the more experienced users found some of the material in module one too basic, although satisfaction with modules two and three was high.

3. Conferencing - as is often the case, student's reaction to conferencing was mixed. Some felt it to be an invaluable aid in understanding, whilst others felt it to be overwhelming in the number of messages.

4. Group work - some students were resistant to the notion of working as a group, whilst for others this was a key component in forming good working relationships with their peers.

5. Tutor support - as with most distance education courses the role of the tutor is vital. Many students found their tutor to be a vital aspect in completing the course, but the immediacy of the medium meant that others felt they did not have sufficient input from their tutor.

6. Time - with the use of computers, conferencing and web searching the course contained a number of activities which could expand to fill time, and many students found the time they were spending on the course was in excess of that which was recommended.

Some of these have been easily addressed for the 2000 presentation, for example the preparatory period has been extended, and an optional group activity which develops HTML skills further incorporated. Others are more complex, and relate to the role of narrative. Some students (approximately a third of those who responded) stated that they wanted more skills development in the course. For example one student commented:

"I'm not interested in how the Internet started; I want a job and need practical experience."

Two-thirds of students, however, found the balance between skills and context about right. For example another student stated:

"Modules two and three covered a broad range of areas. They opened up many channels which I could investigate further."

For the first group of students a more activity-based approach, with less emphasis on narrative was appropriate, as with module one, whereas the second group found the narrative approach correspondent with their needs of constructing an overall framework for understanding the topic. The first lesson which the pilot presentation seems to offer, then, is that students come to courses with different needs and expectations, and different pedagogical approaches may be required to meet these needs. In 2001 the course is dividing to explicitly address these two distinct areas, with module one becoming a stand-alone skills development course, and a new module on the issues surrounding e-commerce being developed to round out T171 to three modules.

This way of working was very new for many students, and initially some found the mix of web material, and numerous computer conferences daunting. This would have undoubtedly been greater had the material been less structured. This anxiety decreased during the course however, as they became familiar with the environment. For students who are relatively inexperienced in using the Internet, there seems to be an advantage in keeping the structure simple and consistent throughout the material. The narrative approach helped many students here, and some suggested that they would have preferred this approach in module one, rather than the activity-based one. The course team intention was to develop study and communication skills in module one, which could then be utilised effectively in the more academic modules. Whilst this worked for many students, others reported feeling something of a shock when shifting from module one to two. Thus a more consistent pedagogical approach to match the web structure may be appropriate. This would necessitate enforcing some level of starting skills however.

At the start of this paper three issues were raised for which it was suggested narrative could provide at least partial solutions. The first of these was to produce a broad appeal course whilst teaching the appropriate material. The student profile seems to suggest that the course does have broad appeal, and it has been suggested that the use of narratives allows the course team to teach the appropriate technical material, by providing an inherently motivating and interesting context for students in which to place the material. The second issue was that of providing a coherent structure to guide students through web-based material. As has been mentioned there is a potential for the user to become lost or engage in superficial learning when confronted with non-linear learning material. Structure was provided by the web site design and through the use of regular study guides, which were sent to students as e-mails. Narrative in the form of the set texts also helps to provide guidance by giving an essentially linear structure, from which the web material can then branch out. The last issue was that of accommodating a range of experience and backgrounds. This was partly accomplished by providing optional preparatory material which students could study before the course started. Thus those who were completely new to computing could familiarise themselves with the Windows operating system, for example. Narrative also helps to address this issue by providing a familiar framework for students of all abilities and backgrounds.

For presentation in 2000 the course has proved to be popular, with a student population in excess of 12,000. The use of narrative has provided an important element in the structure of the course and the student outcomes.

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Appendix 1: Example Study Guide

Author's note - the original contained links which directed students to the relevant elements on a password protected site. These are indicated by blue text.

Study Guide 5

Module 2, Weeks 11 and 12

IMPORTANT: You will use this study guide differently to how it was used in module 1. In module 2 it is suggested that you use it as the place where you keep your notes. This is explained in Exercise 1.

This study guide tells you what you should be doing in weeks 11 and 12 of T171 (April 29th to May 12th).

The links in this document will take you to the appropriate place on the T171 web site. Some of the pages on the web site are activity lists which will give you further instructions. You should then follow these.

There may appear to be quite a lot here, but that is because we have detailed all the tasks required. Remember some are optional, and some will only take a few minutes to complete.

Read the section [About Module 2](#) including all of the segments.

Do [Exercise 1 - Keeping a study journal](#)

Read [Section 1: Background Material](#) including all of the segments.

Do [Exercise 2 -Taking Notes](#)

Do [Exercise 2a - Summarising - Optional](#)

Contribute to module 2 discussion in your tutor group conference - *Optional*

Complete the [self assessment form](#) - *Optional*

Do [Quick Quiz 2](#)

Read Chapter 3 of Accidental Empires

Read [Section 2: Intel and the Microprocessor](#) including all of the segments.

Do [Exercise 3 - Critical Reading](#)

Contribute to module 2 discussion in your tutor group conference - *Optional*

Complete the [self assessment form](#) - *Optional*

Read [TMA03](#), so you know what you are working towards.

Where Next: You will receive another study guide mailing at the end of week 12 which will cover the work on weeks 13 to 14. Alternatively, if you wish to work ahead, you can follow the link at the end of Section 2, or look at the study guides on the T171 website.