Information Spoon-Feeding in an Electronic Environment

Christine Dugdale
ResIDe Research Fellow
Bolland Library, University of the West of England
Frenchay Campus, Coldharbour Lane
Bristol, BS16 1QY
e-mail: C2-Dugdale@uwe.ac.uk

ABSTRACT

This paper examines the potential educational benefits and corresponding disadvantages of providing easily accessible and carefully selected key course texts and other course-related material in an electronic format.

These findings emerged from a Library Services exercise to identify user needs/expectations/potential use of an electronic reserve (short loan collection), before designing and installing the ResIDe system for the Faculty of the Built Environment at the University of the West of England. ResIDe is a project funded by the Joint Information Systems Committee (JISC) of the Higher Education Funding Councils, as part of its Electronic Libraries Programme (eLib).

Through a series of one-to-one loosely structured interviews and focus groups, students, and cross-faculty academic and library staff were encouraged to discuss such issues as the types of material they wished to be included, preferred methods of retrieval and how they wished to use the stored items.

It quickly became apparent that all interviewees felt that the collection might become exclusive; mirroring concerns of staff creating ResIDe that the more closely it fulfilled users' specifications the greater the possibility that it might not integrate with existing library services and might discourage an investigative approach to study.

Whilst detailing the item types they wished to submit, almost all academics included both essential texts and a sufficiently wide range of other sources to ensure students using this material alone could obtain adequate or good assignment and examination passes. They welcomed the possible inclusion, within an electronic environment, of detailed lecturer-directed material to these sources and for links between different items required for each assignment or module.

Most interviewees actually used the term 'spoon-feeding' whilst identifying material to be submitted to the collection. The concept of 'spoon-feeding', however, was held to be of very positive educational advantage by some interviewees and of positive educational detriment by others. There was not, however, any homogeneous opinion within any one group, though,

unexpectedly, almost all students expressed grave concerns about using a system which might 'spoon-feed' them information.

Academics and librarians held 'spoon-feeding' to be a positive teaching methodology for students preparing for professional examinations. All interviewees felt that these (part-time) students attended for the sole purpose of learning essential information to pass specific examinations and had neither the time nor inclination to explore additional sources or read information not strictly required.

Some interviewees felt that, for other students, the electronic environment offered a dangerous level of direction and interaction between material pre-selected by lecturers or librarians which could easily lead to the non-reading of more peripheral material and damage the educational process. A system which unintentionally discourages the seeking of additional information from other sources may create excellent graduates in a particular discipline, but is a barrier to students gaining a broader 'education for life' in that an inquisitive open mind is not fostered nor searching skills absorbed.

Others, however, felt that concentrated direction to essential information supporting lectures and assignments fostered a more enquiring mind, broadening the educational base by removing tedious and, possibly, discouraging and fruitless searches for material. For these, 'spoon-feeding' core information did not discourage further browsing either within the electronic reserve collection or within wider library or external resources, but encouraged it. An electronic collection is quickly and easily accessible; thus leaving students with a whetted appetite and more time to explore material which might be important, but peripheral to their courses.

Introduction

Most academic libraries are exploring the possibilities of introducing electronic formats to improve their overall service to users. It is important to remember, however, that though these may offer indisputable benefits, they may also bring problems and disadvantages.

This paper seeks to examine the potential educational benefits and disadvantages of providing easily accessible and carefully selected key course texts and other course-related materials in an electronic format.

ResIDe Electronic Reserve

Haywood (1995) suggests that access to a wealth of information in today's digital age may lead researchers to worry that they may have missed vital facts and, thus, their originality and joy of research may be stifled. Findings grounded in qualitative data from a recent user survey carried out by the ResIDe Electronic Reserve Project Team at the University of the West of England, however, have indicated that access to a more focused bank of information through an electronic reserve system may also be a detriment to learning. The provision of faster and easier access to a larger,

more up-to-date and relevant collection of information sources may discourage an enquiring mind and more inquisitive students.

The implementation of an electronic reserve or short loan system is more usually recognised as a means by which academic libraries might use new technologies to improve services and, therefore, support the teaching/learning process. Growing student numbers, shrinking budgets and recent changes in teaching practices with greater emphasis on student-centred learning have escalated problems of high demand for scarce library resources. Traditionally, print short-loan collections have been used as a means of 'rationing' material for undergraduates to ease these pressures. An electronic reserve, however, presents a more far-reaching solution. Its potential educational benefits extend far beyond a superior 'rationing' system to, for example, faster and more flexible retrieval, a greater storage capacity, and very tailored course support. These potential benefits, however, hide corresponding dangers for the educational process.

Some of these were an initial cause of unease for the ResIDe Project Team. ResIDe is a project funded by the Joint Information Systems Committee (JISC) of the Higher Education Funding Councils, as part of its Electronic Libraries Programme (eLib). The Project seeks to explore issues surrounding the implementation of an electronic reserve, such as collection and copyright control management mechanisms, whilst creating and piloting an electronic reserve in the University's Faculty of the Built Environment.

An electronic reserve offers the potential for greater direct course support than a print reserve in that it is able to incorporate at once both more flexible and more focused search mechanisms than a combination of an online catalogue and books or journals physically shelved in pre-determined locations. Student-centred learning through assignments as well as class-room tuition in Built Environment, for example, may involve work on a simulated real-life construction project. An electronic reserve system could automatically generate links to other project-relevant items held on the system when any one of those items was retrieved. Such focused help and retrieval is not so easily obtained from a print collection. An online catalogue record will offer keywords which may be used for searches. Other related items, however, may still be missed. These items may be shelved some distance apart in the library. Browsing will not, therefore, necessarily find them. More focused, more directed help may be required to identify diverse sources related to the particular project. It is true that smaller ephemeral items may be grouped together and stored in a single project box, but these may easily be misfiled in an open-access hard-copy reserve. Material such as short lecturer-produced handouts and lecture notes are more difficult to store and catalogue in a print short-loan system. They are more easily identified as a part of a 'package' of course-related material on an electronic reserve system.

Concerns

This led to the concerns of the Project Team that the greater their success in providing relevant information, tailored to the needs of the Faculty's undergraduates, the more likely they were to fail in two of their primary educational roles as librarians; those of teaching searching and retrieval skills and of encouraging a life-long inquisitive attitude to the discovery of information. A focused system would enable students to find the correct answer for an assignment or project more easily. Their ability to think more critically, however, might be impaired rather than developed if they were not asked to think about the methods of finding that answer (Drake, 1996). The more closely ResIDe fulfilled users' specifications, the greater the possibility the collection might become exclusive and

discourage an investigative approach to study. The Project Team, therefore, were anxious that great care should be taken to ensure that the system did completely integrate with existing library services at every level. There should, for example, be inbuilt encouragement to use other sources of library information and detailed directions regarding the use of other library services. It was, however, possible that physical usage of the library might be reduced even with this interoperability built into the Electronic Reserve.

User Surveys

In order to identify user needs and expectations of an electronic reserve collection, the Project Team conducted a series of one-to-one loosely structured interviews and focus groups with students and cross-faculty academic and library staff before designing and installing the ResIDe Electronic Reserve.

This practical information was necessary to ensure that the system satisfied Faculty needs, and, consequently, was extensively used immediately. It is well known that the provision of new library services is a perennial 'chicken and egg' situation. They are often under-used in the first years. If service improvements are to be made, librarians must not be discouraged and must continue to anticipate needs and plan new services before demands for them are voiced. For a one-year research project, however, under-use is not only discouraging; it totally undermines the evaluative element of the study.

As ResIDe is a research project, the Team also wished to elicit more nebulous information. They wished, for example, to discover how aware members of the University were of the project; what they understood an electronic reserve could and would do; what advantages/disadvantages they understood an electronic format would have over a hard-copy collection. Though the Team had identified these issues, no attempt was ever made to prompt discussions to address them. Nor were questionnaires used since they sometimes produce surprising and inexplicable answers (Jacobs, 1996). It was important that respondents had an opportunity to fully explore/explain any views expressed. The Team was anxious to encourage an atmosphere which allowed interviewees' dominant concerns/issues to emerge; for interviewees to speak freely and set their own agenda around the essential practical issues (Glaser and Strauss, 1967; Glaser, 1978).

Initially it was intended to hold a series of focus groups to encourage a freer expression of opinion. The timing of this phase of the project at the start of the academic year, when most lecturers are pre-occupied with course preparation, rendered it impossible to arrange mutually convenient dates. In the event, a focus group of ten students was held and individual interviews were conducted with twenty members of academic and library staff and one post-graduate student who had graduated from the University. It was subsequently discovered that a wider range of opinion was put forward during these individual interviews than in the focus group. Two interviews were conducted with two interviewees; the remaining eighteen with one interviewee. All were conducted by two interviewers. Subsequently, further interviews were held with support staff, the leaders of two ResIDe supported modules and the Project Team participated in planning meetings for a ResIDe-targeted team-taught module.

Course Support

Despite the wide range of topics which were addressed, all interviews without exception produced one entirely unexpected and unsought result. It clearly emerged that every single interviewee identified an electronic reserve collection as being a very detailed and very easily accessible system of direct *course support* which could be used by lecturers as a teaching tool rather than as a separate, but supporting library resource.

Every interview began with a short outline of the project and its research aims. Though interviewees were asked about the types of material which would be of interest to Built Environment undergraduates, the system was always described as a *library service* and not as part of Faculty organised/funded learner support. Yet every interviewee instantly identified it as a system of direct course support.

Spoon-feeding

It also emerged from every single interview, though no interviewee was asked about this aspect, that everyone believed that such a system of course support might easily become exclusive - exactly mirroring the earlier concerns of the project staff. It quickly became apparent that all interviewees shared this belief. Everyone thought that a system which could retrieve readings by searching under lecturer name, module name, module number and project title as well as more traditional library search tools such as title, author and subject keywords would 'spoon-feed' information to students. It was recognised that an electronic environment provided a framework which potentially offered a degree of 'spoon-feeding' absent from any library print service. Interviewees appreciated that the library's electronic catalogue did provide very sophisticated 'cross-referencing' which would lead to physical groupings of the lecturer-directed/provided 'project boxes'. They were all concerned, however, about the degree to which an electronic reserve could so much more easily 'guide' users to digitised sources without any great intellectual effort.

Almost all interviewees actually volunteered the term 'spoon-feeding' whilst identifying material which should be held within the Electronic Reserve Collection. Most academics identified essential texts for each module with a sufficiently wide range of other sources to ensure that students using only that recommended material could obtain adequate or good assignment and examination passes. Indeed, no other information from any other source at all would be needed for students using the sources held on the ResIDe Electronic Reserve in order to pass the module. Furthermore, some academics welcomed the possibility, existing within an electronic environment, of including very detailed lecturer direction to material and for the automatic generation of links between different items required for each course or assignment. In so-doing, however, they all pointed out that this would 'spoon-feed' their students.

Significantly, the concept of 'spoon-feeding' was held to be of very positive educational advantage by some interviewees and to be a very negative educational problem by others. Yet everyone held very strong views on the subject, though one academic in favour of 'spoon-feeding' was very relaxed about the system's tendency to 'spoon-feed' and its effects on his colleagues. He appreciated that some lecturers always 'spoon-fed' their students and others never did so, whether they were able to use electronic systems, photocopiers, reading lists, module notes, handouts or project boxes. He felt that the electronic reserve would be a new tool which was simply used by those who believed in 'spoon-feeding' and not by those who believed students should discover

most information for themselves. Others, however, were not so relaxed about the possibility of 'spoon-feeding'. Few accepted that there might be a valid alternate view. Indeed, a later discussion about these findings with a colleague prompted the accusation that the Project Team was revealing a great bias by their use of such a derogatory term as 'spoon-feeding'. The possibility that they were describing what some saw as a useful educational tool proved to be too alien a concept to even be considered.

Those who welcomed the possibility of 'electronic spoon-feeding', became far more enthusiastic about the installation of an electronic reserve; those who were disturbed by the idea of 'spoon-feeding' information to students were alarmed by the idea of an electronic reserve.

Students

Surprisingly, there was no homogeneous opinion within any one group, though, unexpectedly, all the students, except one, initially expressed grave concerns about using a system which might 'spoon-feed' them a bank of easily accessible information submitted by the lecturer leading their course. Further discussion, however, revealed that this was not because they were worried that they might lose the opportunity to learn life-long searching skills, nor that they might be discouraged from searching outside the list of items associated with one module and, therefore, not find other information through 'accidental discovery' whilst browsing. It was because they feared that lecturers would accuse them of merely reproducing this information and they would lose marks for lack of originality. One student was also concerned about the inclusion of lecture notes and handouts since it would mean that some students would not go to lectures if the material could be easily accessed outside the lecture theatre. Again, this was not, apparently, because he was concerned about any educational loss suffered by students denying themselves class-contact, but because he resented his fellow students receiving notes so easily when he actually attended lectures!

The one student who declared himself in favour of an electronic reserve's tendency to 'spoon-feeding', however, indicated that if such direct 'spoon-feeding' as lecture notes and guides were included they would only give information and not answers to set questions or assignments. They would merely reduce the drudgery of finding the information. He would still have to interpret it. Following this, a third-year student explained to the group that all the system would, in fact, do was make some things more easily available for them, but that research would still be necessary because everything would not be held on the Electronic Reserve. It would, however, be better if some things were easily accessible as a 'starting point'.

A postgraduate student, however, was appalled by what he termed an electronic reserve's tendency for 'information-shovelling' which would prevent students thinking for themselves if automatic links between project items were generated. He felt that if a specific book extract were included for an assignment students would then only read that. If, however, they had the whole text in front of them they might scan more than the relevant extract and find other things - some of which would be useful for later work, some of which would be useful in providing a wider understanding for that assignment. Though he believed that some students would always browse anyway, he felt that those with little commitment or those who are less able would allow themselves to be 'spoon-fed'. He also thought that, in a period of student financial hardship, many lack time because they are working as well as studying and, therefore, some students would always now take what he described as 'the easy way' if only to save themselves time. On reflection, however, he offered muted approval for an electronic reserve and its 'spoon-feeding' tendency for first year students

who needed more help and direction. The ResIDe Electronic Reserve would provide them with a 'guaranteed delivery' of essential core information whilst they were still learning how to use other library resources. He believed it would become less of an asset for second and third-year students who could learn much more by discovering information for themselves. He was concerned that the quality of students' work would go down if they were spoon-fed since this would only reflect the quality of the material given, which they would simply reproduce. This, he said, was not really education. They would not be thinking for themselves.

Academics and Librarians

Academics and librarians felt that 'spoon-feeding' was a positive teaching methodology for students preparing for professional examinations. None of these students participated in the focus group. Amongst academics and library staff there was no divergence of view in respect of these courses. All interviewees believed that these (part-time) students attended for the sole purpose of learning essential information to pass specific examinations and had neither the time nor inclination to explore additional sources or read information not strictly required. They were not interested in education in a wider sense.

There was, however, a wide divergence of opinion about other students and courses. Different opinions appeared to be more a matter of personal teaching styles, though there were discernible differences between faculties. This, of course, has important implications when the implementation of a University-wide electronic reserve collection is being considered. It also raises important issues when considering entering information for a cross-faculty course onto an electronic reserve.

The survey reflected a high concentration of Built Environment staff since the system is being piloted in this Faculty, but staff from other faculties were interviewed, partly as an exercise to cross-reference views and partly because it is intended that ResIDe should be scaleable and may be rolled out to other faculties after the pilot stage. Some interviewees thought, for example, that, in a subject such as science, retrieval of information was an essential part of a course since scientists were primarily researchers. An electronic reserve with its inherent tendency to 'spoon-feed' students, therefore, might reduce the level of researching skills which are being taught. It might also discourage students from practising electronic research skills which are needed for other electronic sources. On the other hand, for business students, emphasis is rather on the analysis of given information. Indeed, one librarian thought that if these students were not automatically 'spoon-fed' they would merely ask for the same help at the enquiry desk. Retrieval of information from an electronic reserve would provide a consistency lacking from staff manning an enquiry desk.

In addition, within the single Faculty of the Built Environment, different schools adopt different approaches in using library resources with correspondingly different views about information 'spoon-feeding'. Tutors in less technical disciplines expect that their students will use the library extensively from the beginning of the course and that their students will find their own information with minimum guidance. Tutors in more technical subjects often provide information which they expect their students to analyse. Where this information is provided in printed form, students may tend merely to reproduce, for example, graphics. If information, however, were to be provided in digital form on an electronic reserve the data could be used interactively and students learn more by analysing it.

Thus, a 'two-tier library-using culture' already exists within the one faculty and this was reflected in the different stances taken to information 'spoon-feeding'.

Disadvantages

Some interviewees felt that, for non-professional full-time students, the electronic environment offered a dangerous level of direction and interaction between material pre-selected by lecturers or librarians which could easily lead to the non-reading of more peripheral material and damage the educational process. They believed that finding information was an essential part of a student-centred, assignment-led educational process. An electronic system which is able to concentrate on the fast and easy access of essential core text, but unintentionally discourages the seeking of additional information from other sources may create graduates who appear (from examination or assignment marks) to excel in a particular discipline. It may also, however, be a barrier to students gaining a broader 'education for life' in that an inquisitive open mind is not fostered nor searching skills absorbed.

One lecturer who clearly identified an electronic reserve with digitised course readers was very concerned that the system would discourage any other use of the library. He did not want information to be collected together since he believed that students should manage their own learning from generic references and additional direction given during lectures. He strongly objected to the idea of handouts being included on the system since he believed it would discourage attendance at lectures where a broader overview of the subject could be received than was possible from readings centred only on specific assignment topics.

Onions and Sound Bytes

A larger number of interviewees, however, adopted the opposite view. They believed that concentrated electronic direction to essential information supporting lectures and assignments fostered a more enquiring mind, broadening the educational base by removing tedious and, possibly, discouragingly fruitless searches for material and the need to learn how to use several databases - each with a different set of instructions. For these interviewees, 'spoon-feeding' core information did not discourage further browsing either within the electronic reserve collection or among wider library or external resources, but encouraged it. An electronic reserve collection is quickly and easily accessible. Course information is found with little effort; thus leaving students with a whetted appetite and more time to explore material which might be important, but peripheral to their courses. An electronic reserve, therefore, would result in students reading more and receiving a wider education.

This view was most graphically expressed by two lecturers who likened the process of acquiring information to that of peeling onions layer by layer - an analogy repeated by the one student who was initially in favour of 'information spoon-feeding'. They likened course information to the outer layer of an onion. If an electronic system would simplify the finding of that information, then students would move more readily to the next 'layer' of information. If they spend time searching for information and, especially, if they fail to locate it, then they might become frustrated and only search for core information. An electronic system, therefore, would lead to the reading of more peripheral information and more sources. They accepted that some students would always do the mere minimum necessary to achieve the required grade, but others who were prepared to do more would be encouraged and not discouraged to browse further and discover for themselves. One

lecturer believed an electronic reserve's inherent 'spoon-feeding' element was the electronic equivalent to a 'small sound byte' print approach he had been using for some time. All his students receive a selection of short newspaper articles as a 'way in' to the subject. This encourages additional reading in the same way as easy and fast access to core information in an electronic reserve would do.

Other academics and librarians were also of the opinion that students often do not access all recommended sources by themselves. There is, then, a danger that they produce work based on an incorrect balance of information which 'spoon-feeding' selected extracts would prevent. This mirrored the views of some of the lecturers participating in the SCOPE eLib project who believe that a selection of texts from a wide variety of sources in a course pack discourages possible shallow learning based on a narrower range of material (SCOPE, 1996). Students are encouraged to study in greater depth if their range of sources is not restricted by material being held in print short-loan collections

Contradictions

One academic felt that 'spoon-feeding' information via an electronic reserve collection actually gave students the freedom to control their own learning. She thought that there was a far greater danger of students being 'spoon-fed' by lectures and seminars. Unlike all other interviewees, therefore, she uniquely identified lectures as 'spoon-feeding' and an electronic reserve with its clearly focused and packaged, but non-interpreted selection of sources, as student-centred learning and research. She, alone, believed that the system, by offering easy access to information which still had to be sifted and interpreted, provided diversity and not exclusivity.

Many lecturers felt that 'spoon-feeding' pieces of information would help less able students most. One, however, felt that it would help his most able students by widening their reading and understanding. These students were often deprived of his help in this area as lecture and tutorial time was often swallowed up by one-to-one help for less able students.

Two academics believed that an electronic system would merely be an additional library service 'spoon-feeding' some information, but never replacing the desire and habit of reading print and browsing shelves. Its 'spoon-feeding' tendency, therefore, would be diluted within the total library-using experience. Two others, however, believed that once 'converted' to the advantage of an electronic system many students became computer 'freaks' and rejected print alternatives. They would, thus, be totally 'spoon-fed' information.

One academic, while recognising that an electronic reserve would 'spoon-feed' information actually objected to the possibility that there might be insufficient 'spoon-feeding' in a comprehensive electronic system. He felt that his first-year students should not be confused by exposure to additional reading held in the electronic reserve, but should only look at those items to which he has directed them by handouts and printed course readings.

One interesting alternative perspective on 'spoon-feeding' came from an academic involved in a 'real-life' planning/construction project. He welcomed the possibility of an electronic reserve which could 'spoon-feed' students a confusing selection of material. He argued that practitioners are overwhelmed with information in the real world - much of it irrelevant. He, therefore, believed that students should be able to easily access information, but that some of this information should be

irrelevant. Another lecturer teaching on this course agreed that peripheral material should be 'spoon-fed' to students because 'we don't want to hold their hands'!

Conclusions

The very essence of a reserve system is to provide core text materials required by large numbers of students over a short period. An electronic system does this more efficiently. In that sense, it might be said to be 'spoon-feeding' information to students more than a traditional print collection. But an electronic reserve offers much more. Its increased flexibility and faster retrieval properties offer a variety of ways in which simple course-related searches might produce a very focused set of information sources. This almost certainly should provide students with sufficient information to pass exams. It may or may not encourage them to seek other sources of information.

The ResIDe Project interviews at the University of the West of England would suggest that the majority of academics, librarians and students believe that the provision of easily accessible core course material does foster and not discourage an investigative approach to study.

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Christine Dugdale is the ResIDe Research Fellow at the University of the West of England. Before taking up post with this eLib project, she was employed by the University of the West of England in the Library's Book Acquisitions Department for several years having held a number of posts in a variety of public, special and academic libraries.