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Teaching your Users: What you Really Need to Know

Paper presented to the 35th BIALL Annual Study Conference in Edinburgh, June 2004 by Sharon Markless.

Introduction

This article draws on 20 years experience of working primarily with college, university, and health librarians but including forays into the special and public library domains. It is written by an educationalist and teacher trainer who spends much of her time working to enhance the teaching of professionals whose first job is not teaching; someone who has never run a library but who has a long track record of research into libraries and information services; someone who is not a librarian but who has designed and facilitated innumerable CPD courses for librarians.

This article asks what is fundamental to the enhancement of librarians as teachers. It argues that anyone who 'teaches' needs to begin with insights into learning rather than to focus primarily on teaching techniques. Learning theory is not an optional extra but the foundation on which all work with users should rest.

> *"It makes no sense to decide how one is going to teach before one has made some study of how people learn."* (Sotto 1994)

Learning theory in teaching

For the last twenty years I have been working with professionals to enhance their teaching. This has entailed observing and giving feedback on hundreds of sessions in many different situations because the professionals on my courses include police officers, nurses, hospital consultants and university lecturers as well as librarians. The professionals I have worked with are obviously concerned about their students' learning. However, when planning their teaching they tend to focus on the information/skills that they wish to impart and structure sessions according to the logic of the content and in their own image. Sessions are very rarely planned with regard to principles of learning; indeed many actively flout these principles (usually with the best of intentions). Most group sessions I have seen are characterised by 'teacher' control of content, sequence and pace with a lot of student listening/watching/repeating the steps demonstrated. In addition the sessions are usually content heavy ("we only get them for a short time"), and ignore learners' own existing conceptual frameworks and strategies. (It is interesting that

one-to-one sessions display these characteristics much less frequently.)

I have discovered that the biggest contribution I can make to the quality of teaching is to talk about learning and the needs of learners. In my experience, once professionals really grasp the complexities of learning and have explored some learning theory, they are able to analyse their own teaching in a different way, using new frameworks and criteria. They can enhance what they do, not by incorporating techniques and tips that might not be appropriate to their contexts, but by using ideas about effective support for learning. An understanding of learning enables and empowers people whose primary job is not teaching.

Where to begin?

A good place to start is for each individual to think through his/her role as a teacher in relation to the learner and not just in relation to the knowledge/skills to be passed on. Is teaching primarily:

- Theatre/performance?
- Asking the right questions?
- Clear, well structured presentation of information?
- Demonstration/modelling of skills/procedures?
- Creating a supportive context?
- Engaging learners' interest?
- Finding out misconceptions and altering them?
- Transforming knowledge into suitable tasks/problems for learners to tackle?

Many professionals cling to the belief that good teaching is about telling or showing. If someone does not understand or remember, the answer is to tell again or show again more clearly. If people have to give large-scale presentations they will need performance and transmission skills. In such situations the primary focus will be on the structure of the content and clarity of presentation. However, teaching is not merely a form of super-presentation:

> *"we teachers and others are in the grip of an astonishing delusion. We think we can take a picture, a structure, a working model of something constructed in our minds out of long experience and familiarity, and by turning it into a string of words or actions transplant it whole into the mind of someone else. . ." (John Holt, in Sotto q.v.)*

When teaching, the primary focus is on the learners and how we can help them to learn most effectively. Librarians are trying to achieve a difficult objective: the creation of analytical and critical information problem-solvers. We need to create the conditions, processes and structures that enable people to learn how to behave like this. But this is only possible when we develop a real understanding of how learning occurs and a real interest in, and curiosity about, our users and how they think about information and libraries.

Which elements of learning theory will provide most insight and support? This is a difficult question as I am not sure that a pre-packaged list of tips about learning is much better than a pre-packaged list of techniques for teaching. However there are some things that have proved genuinely helpful to librarians, enabling them to look at their own teaching in a fresh light, to better understand what was happening in their sessions and to move forward with more confidence and enthusiasm.

Influences on effective learning

We all know a lot about learning; we have spent a lot of time doing it. Yet it is interesting how rarely people who teach stop to consider themselves as learners. If professionals reflect on their own positive and negative learning experiences it can help them to remember the complex nature of learning and to identify what can support and what can inhibit learning. From such experiences, librarians learn the crucial importance of factors such as relevance, timeliness, real needs and consequences – not to mention active participation, engagement, achievement and feedback that answers the 'what can I do to improve' question. The vital contribution of these elements to learning is supported by research into adult learning (see, for example Jarvis: 1995 or Tight: 1996). Yet sessions I have seen, most especially induction sessions, are structured to actively ignore these factors! Enhancing the quality of library induction is not about devising more brief activities, a better tour, or ever slicker performance to cover the heavy content (using video, Powerpoint, etc.) but about recognising the need to build in learners' needs and priorities. With this focus, induction might look quite different: engaging users in discussion about their expectations of the library/information service or about their experiences of using libraries; working to meet the information needs that users have at the time of the induction (in a university setting this might be finance, accommodation or the best clubs); or involving users in activities to explore how they currently find things and how they can become even more effective and efficient.

What is learning? How does learning occur?

Discussion with librarians about their experience of learning also provides an opportunity to consider the nature of learning – a contentious subject. How important are changes in behaviour? Are we trying to promote insight and understanding or the ability to remember where things are and how to use the library catalogue? Beliefs about learning and how it occurs anchor decisions about which teaching strategies to use. I believe therefore, that it is vital for anyone who teaches to become conscious of, and

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reflect on, their beliefs about learning and how they are manifested in their teaching.

In discussion, information specialists are often surprised to find that they carry around with them images of learning that lead to a transmission model of teaching (a legacy from their own experiences). This model of teaching is built on behavioural learning theories which see learning as a process of altering behaviour through a sequence of stimulus/response/feedback activity. In this view of learning, the teacher sequences what is to be learned into small steps, feeding the content in gradually as the learners demonstrate that they have grasped the previous segment. The content, sequence, pace and timing is decided upon and controlled by the teacher. I have seen this approach used very often in library and IT-based sessions. I believe that this theory is useful and effective as a basis for teaching certain skills and processes, for example getting access to a database, where following set procedures is the key to success. However, if we want users to think creatively and analytically about information and information problems, cognitive learning theories have more to offer. These focus on developing understanding and personal meaning and view learning as an active process of individual and social construction of knowledge. Learners need to discuss, reflect, explore; they are challenged and work on real problems. The teacher supplies the resources and the framework for enquiry.

What I believe about how learning occurs is not really the issue here. Each individual needs to work out their own understanding and to reflect that understanding through their teaching. What inhibits teacher development is the tendency to plan teaching without considering the differing views of learning and when different theories might be best used. Over the years, numerous librarians have been surprised when they realise that the vast majority, if not all, of their teaching sessions reflect a behaviourist view of learning. During teaching courses for librarians, we often re-plan sessions together using a cognitive view of learning and the results can be startling.

(For accessible discussions about alternative approaches to learning see, for example Entwistle and Hounsell: 1975; Curzon: 1990; Jarvis: 1995.)

Some learning principles

Scaffolding

Although it may not always appear so, users have developed strategies for finding and using information by the time they enter your libraries – and yet years of observation in college and university libraries have demonstrated a lack of scaffolding in learning. Over and over again users are told or shown how to use the library and the technology. They are somehow expected to graft a new layer of information/skills onto their existing conceptual frameworks without seeing how the two relate. Research into learning shows this to be a fundamentally misconceived approach. As Ausubel said, thirty years ago:

> *"The most important single factor influencing learning is what the learner already knows; ascertain this then you can determine where the gaps are and teach him accordingly"* (Ausubel:1968).

Learning occurs most effectively when learners are able to 'scaffold up' from what they already know and can do. This means providing users with an early opportunity to tell, or preferably to show, the search strategies that they already use. Ensuing discussion about how to enhance existing strategies – the bits to change and the bits to keep – is much more likely to be internalised, remembered and used.

The experiential learning cycle

This is a model of learning which can be seen as one practical approach to the process of scaffolding. It is used to bring about changes in behaviour (the librarian's goal) rather than increases in knowledge.

Although this model of learning should not be taken as a blueprint for all planning or as a rigid step-by-step view of how all learning occurs, it does make it clear that certain components are crucial to enabling and embedding learning. (The words in brackets are Kolb's own description of the elements.)

Direct (concrete) experience – actually doing an activity, for example, searching a database, finding your way around a library or remembering a specific occasion when you did, or evaluating a website, provides the starting point from which users can develop.

Reviewing (reflection) – on **how** the activity was carried out. The right answer or result is not the point here. Learners need to recapture the **process** of searching/finding/evaluating in order to reflect on the steps they actually took to get the answer or information. Only then will it be possible to explore alternative strategies that they might use. Peer discussion of processes can be very powerful, for example comparing different routes to similar answers and how long they took. However, it can

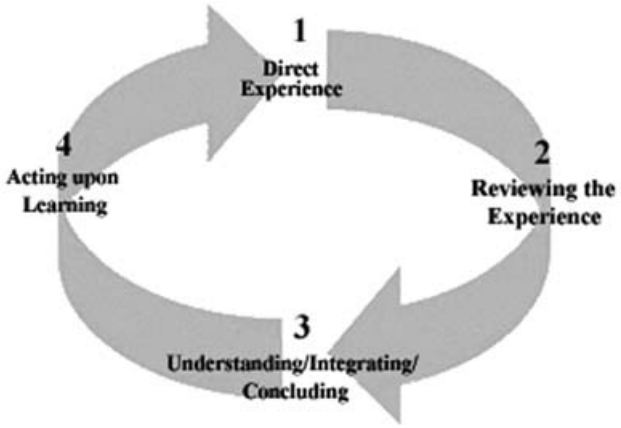

Figure 1: The experiential learning cycle.

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be difficult to recall what we actually did during an activity; therefore the role of the librarian should be to facilitate this. Librarian observation, simple search strategy sheets filled in by the learners during the search, or peer observation can be used to capture the approaches used. Reflection on the process is the phase most often missed out or shortened due to lack of time – and yet it is one of the most important aspects of adult learning.

Understanding/integrating (abstract conceptualisation) – the "what does this mean to me?" stage. It is important for the learners to make sense of their reflections, for instance by asking "What will I do differently in future?" "Which bits of my strategy are OK, what should I fine tune?" This is the stage at which the librarian can feed in "expert" knowledge or give a demonstration. It is much later in the proceedings than is usual in most library/IT sessions.

Acting (active experimentation) – try it out or, if time is limited, plan how to take what has been learnt further next time.

A combination of these elements regularly appears in the writings of major theorists in adult learning. The Experiential Learning Cycle offers an example of the practical nature of good theory. The Cycle provides a solid foundation on which to design learning activities, whilst allowing room for the teacher to choose the precise techniques. It shows how to put the learner at the centre of the session.

An example of how the use of learning theory can make a real difference occurred when I was asked to help re-design some workshops for doctors. The health librarians had been running sessions on searching within an evidence-based medicine framework. They had had planned carefully, had identified their objectives and the content to impart and were enthusiastic about the topic. However the sessions were not working as well as they had hoped. We discussed scaffolding and experiential learning and decided to turn the sessions up-side-down and begin with the doctors, in small groups, carrying out an electronic search to answer a question that they formulated themselves. After some time the groups got together to look at their answers and their search strategies (captured electronically). A fascinating debate ensued, comparing different approaches, the time taken and the quality of the results. The librarians contributed their expert knowledge at this point, not earlier. Without a grasp of learning theory, this approach would probably not have been tried. Even if the approach had been considered I suspect that it would have felt 'too risky' without a good theoretical base to justify it.

Problem solving

The librarians that I have worked with have tended to agree that rote memorising of set procedures and routines, the regurgitation of facts and the passive acceptance of information (surface learning) will not take users very far in the modern information environment. Users need to be able to critically interact with information and to formulate and flexibly apply search strategies best suited to the task in hand (deep learning).

Unfortunately, many librarian-led sessions seem to be constructed to promote surface learning, although librarians say that they are trying to encourage problem-solving strategies. This is partly because librarians use a transmission model to teach these information strategies: sessions dominated by showing or telling rather than by 'activity, reflection, feedback'. Daines (1992) observed that *"Adults learn from problems rather than from subjects"*. Such a simple insight can have far reaching impact on teaching. It does not dictate which problem-solving techniques to use (case-studies, simulations, evaluation of data) but does lead the teacher to base sessions round information problems. If you want to adopt a problem based approach in your sessions some basic principles apply:

- choose questions/tasks carefully, going for authentic problems – which can be messy – rather than basing a session on a predetermined instructional sequence;
- devise questions to which learners seek answers using their experience, existing strategies and high quality support material that you provide (e.g. guidelines, diagrams, information on search engines);
- encourage learners to talk to each other to clarify their ideas, analyse/reflect on their strategies, or formulate questions to ask you;
- get learners to review/correct each others' answers; not always work through the 'teacher';
- monitor carefully but resist the urge to get in there and do/say something unless absolutely necessary.

Learning Preferences

An increasing focus on the learner and learning, rather than on teaching, can usefully lead to some consideration of how learners differ in their approaches to learning. The work on multiple intelligences (Gardner: 1983), research into learning styles (Kolb: 1976; Honey and Mumford: 1992), and work on cognitive styles (Riding and Rayner: 1998), together present any teacher with a range of ideas about how learning preferences affect learning. This research was not designed to label learners; rather, it provides a useful tool for reflection on one's own teaching practice. The way in which an individual teaches can be heavily influenced by how they prefer to learn. If someone has a strong preference for well structured, logical instruction in their own learning, they will tend to plan their teaching to reflect this approach. They are unlikely to teach using open-ended, unstructured activities. However this will present problems to some learners. Many of the librarians who attend my teaching courses find the exploration of learning styles the most illuminating and practical element of the course. The exploration enables librarians to see hitherto unrecognised patterns in their lessons and to understand why some learners seem unable to connect with the activities or presentations. The research also provides a framework within which to think about how to extend the range of teaching strategies used, in order to introduce more variety into teaching. Some librarians I have worked with have used learning styles theory to help them develop back-up materials to be used in the event of a lesson not

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working out as planned. The figure below shows one view of the different learning styles.

Activist	Reflector
Random learners; open ended; self-directed	
thrive on challenge easily bored	observe and ponder delay coming to conclusions

Pragmatist	Theorist
Logical sequential learners; clear structure and direction	
practical application dislike discussion	step by step logic likes research evidence

Where next?

The elements of learning theory that I have briefly introduced in this article are those that I concentrate on when working with a new group. The more I work with professionals who do some teaching, the more I become convinced that understanding learning is not an optional extra. I think that anyone who teaches users should develop their own framework of learning theory and principles to inform their work. Such a framework can

- help you decide how to enhance your practice
- help you work out what is going wrong, or not going as well as you would like
- give you a basis on which to evaluate your teaching
- keep you challenging your own and others assumptions

The increasing use of e-learning material makes an understanding of learning even more important. We are not there in person to support the process of learning so appropriate learning support has to be built in to the materials. Unfortunately a lot of the materials that I see are merely on-line transmission of content or sets of closed, mechanistic questions and as such are not likely to engage, challenge or lead to deep learning. This is the new challenge to librarians as teachers in our Age of Information.

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