



## THE EPIC APPROACH TO ONLINE SKILLS TRAINING

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### THE AIMS

The approach aims to provide librarians in training roles with an effective strategy for online skills training – one that is readily applied by inexperienced trainers, and favours the building of participant confidence and learning retention. The approach is not unique, it simply draws together research on learning and training good practice to provide a set of strategies and written materials that, appropriately applied, will enhance learning.

### CONTEXT - WHAT WE'RE FACING

The librarian trainer will typically have to:

- Confront a spread of participant experience and competence (and often a gap between actual and perceived!)
- Allow for a range of expectations and attitudes (some inflated, some reluctant or unconfident)
- Cater for a range of preferred modes of learning
- Work around facility limitations.

...and they may lack confidence to adopt the role of 'expert' searcher or trainer.

And in considering the expectations and assumptions that participants bring we are now faced with a very Web-centric experience. Their understandings and behaviour are profoundly shaped by dominant search engines - mainly Google. Implicit but not always well formed assumptions are held that things work 'like that' and departures from these can be a significant cause of search failure. This presents challenges in that the functionality and interfaces of many existing library databases and catalogues diverge from this and are perceived as dated, overladen and 'different'. Worse, they often require information literacy skills to effectively use them, skills which we know from research are not pervasive. Evidence indicates that high functionality and quality content is not sufficient to attract and retain users – we also need correspondence with what the average user feels are common and convenient ways of engaging in the search process, approaches that reduce the threshold for successful use. If the thresholds are too high then they just 'satisfice' and retreat back to the Web.

### CORE STRATEGIES DEPLOYED

#### **Reduce the Learning 'Load'**

Our training plans and accompanying written resources are carefully scaffolded so that participants are working from the known or familiar to the less well known, step by step. The capacity to learn and retain what is understood is very dependent on the extent of 'load' placed on the 'working memory'.<sup>1</sup> Prior understandings (of how things work etc) are built up and held in 'schemas' - established blocks of skills or knowledge

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<sup>1</sup> This draws from research on 'cognitive load' and instructional design by John Sweller and others. The theory is more layered than sketched here, particularly with regard to the different forms of load and element interactivity, but the essence is as described.

that are treated as a single element or process. We don't consciously have to give much thought to deploy these held schemas as they are well set and readily recalled ('automatically') as prompted by demands eg. how to drive our own, very familiar car, or word process a document in a way we've done many times before. If the new concept we are attempting to acquire draws on many of our existing 'schema' then the learning (cognitive processing) load is fairly small eg. if we are using a new interface that appears to operate in very similar ways to one we are familiar with. If most of what we are trying to pick up is very unfamiliar then we can't draw on many existing understandings (schema) and the cognitive load will be high. In this context a participant's working memory is easily overwhelmed with resulting confusion or anxiety and poor retention, unless there is very deliberate pacing and repetition to give time to consolidate new concepts. Essentially new material is most effectively and efficiently learned when the cognitive load is kept to a minimum at any one point.

Our approach provides for the structured building of concepts reinforced by making clear points of coincidence among systems, interfaces, and search functionality so that the familiar is recognised and known schemas can be drawn on. Analogies between systems or features are invoked and/or common terminology deployed so that the schemas are recalled eg. pointing out that the search features on top of the Google search box (*Images, News...*) are analogous to those in the various databases in that they allow a grouping (a 'slice') of the total resource or results to be displayed or searched on – and calling them all 'tabs'. This also provides for some repetition of concepts, even if in different contexts, and repetition consolidates learning. Schema consolidation is additionally strengthened by provision of one-page checklists of core 'rules' (search grammar etc) and search strategies that will apply across almost all resources. The subsequent 'load' when faced with an unfamiliar or seldom used interface is therefore reduced.

### **Keep it Simple & Generic**

Training plans focus on skilfully using 'basic' (as opposed to 'advanced') search interfaces. This facilitates (1) the establishment of core search skills that are transferable from the known (eg. Google, catalogues) to most databases with some easily understood tweaks and (2) the building of confidence in the novice or weak searcher. New resources or interfaces are better introduced in a generic sense rather than placing emphasis on their individual characteristics. We avoid also presentations of concepts in the abstract eg. 'Boolean operators' or 'controlled vocabulary'. Participants derive such understanding from observing the consequences of specific search strategies, not as constructs to be learned before searching.

Adopting such an approach takes participant focus off the (often intimidating) array of buttons, interface features and required syntax, to allow clearer thinking applied to term selection, refinement and search strategy. Searching is presented as much as feasible in a generic sense ('it's a search box like any other basic search box') rather than emphasising the individual characteristics of any resource. One of the issues with teaching advanced interfaces first up (if at all) is that they are commonly quite distinct and require a higher learning load to use effectively. And, if you have to learn many different versions of such interfaces you use only occasionally, confidence and competence issues emerge.

This tactic may be contentious but it does serve to get the inexperienced, unconfident searcher, or those with ineffective habits, back on track into a sound, simpler, general approach to online searching. From this base they are better placed to build their own more sophisticated strategies for specific tools where this best suits local needs and resources.

Browse strategies are also encouraged where available, introduced simply as analogous to shelf browsing vs. catalogue searching. The directory like options of some databases can provide an effective, alternative mode for discovery.

### **Get Engagement in Learning**

The training deploys a questioning, collaborative style. Participants are continually asked to explain what to do next or what's happening when it doesn't work, so that they are stimulated to sort small issues themselves and then get a consensus or clarification from group discussion and suggestions. The Trainer aims to guide or prompt if need be but not 'tell'.

Such problem-based learning, in which participants are required to think their way through small steps (especially useful at points of search 'failure') contributes to a greater ability to construct and adapt search strategies back on the job, where they may often be operating under service pressures. Note that these small challenges to come up with solutions are quite distinct from just encouraging participants to play and 'discover'. Cognitive load research indicates that novices learn better when presented with well-constructed examples to work through where the demands at any one point are modest. Our training structure and the trainer's prompting maintain the required focus.

By contrast, being the passive recipient of learning (eg. viewing a demonstration of a procedure, or being required just to follow given steps from a manual) does not require participants to develop such thinking and relevant new 'schemas' are only weakly established, unless performed repeatedly. <sup>2</sup>

Learning consolidation is similarly assisted by eliciting core or general 'rules' and strategies for searching from the participants as general conclusions from what they've observed i.e. not just imposing them. These are then presented post-session in short, one-page summary handouts.

Engagement is also stimulated by the use of recognisable, real life contexts - each teachable concept is embedded in a realistic search or service 'story'. Such stories, anecdotes or analogies drawn from real-life examples, enhance learning by (1) increasing retention - people remember stories not processes - and (2) increasing motivation to attend to the session through making evident the service context ('this is something I might use...should follow it more closely').

### **Build Confidence**

Establishing and maintaining participant confidence is vital to reducing anxiety and subsequent retention of learned concepts. Our approach builds this through the careful scaffolding and by drawing from their experience to work through processes. This all serves to convey that what is required to be a competent searcher is not beyond the participant - that if they master a few key understandings they can apply these with some confidence across a range of online resources.

Skills and understandings are not set in a training session - to be retained they need consolidation over a period following training. This requires review, practice, real-world use and personal refinement. The establishment of confidence is of course vital to encouraging this subsequent exploration and use of the resources on the job.

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<sup>2</sup> Some assume any 'hands on' training is interactive if it gives the participants a keyboard but, if they are only following by rote procedures set by the trainer, there may be only weak transfer of learning.

## SUMMARY

The essence of the approach is one of scaffolding of learning to minimise learning load and build confidence, the teaching of generic skills transferable to any resource, and a strongly questioning, collaborative style in training sessions to enhance skill and knowledge retention.

Such an approach may require slightly longer training sessions to introduce resources and concepts but, if well done, will result in significantly better retention of learning, the acquisition of more transferable search skills, and a greater confidence and willingness to persevere with online resources.

## LITERATURE SOURCES

Our approach has drawn (in part) ideas and strategies from the following sources:

CIBER (2008). *Information behaviour of the researcher of the future*. British Library and JISC, UK, 11 Jan 2008. <http://www.bl.uk/news/pdf/googlegen.pdf>

Clark, R.C., Nguyen, F. & Sweller, J. (2006). *Efficiency in learning: evidence-based guidelines to managing cognitive load*. Pfeiffer.

Hough, B. (2006). Teaching people to be savvy travellers in a technological world. *Computers in Libraries*, 26(5): 8–12.

Laverty, C., Reed, B., & Lee, E. (2008). The "I'm Feeling Lucky Syndrome" : Teacher-Candidates' Knowledge of Web Searching Strategies" *Partnership: the Canadian Journal of Library and Information Practice and Research* [Online], 3 (1).

Myhill, M. (2007). Canute rules the waves? Hope for e-library tools facing the challenge of the Google generation. *Program*, 41(1): 5-19.

Nicholas, D. (2008). The information-seeking behaviour of the virtual scholar: from use to users. *Serials*, 21(2): 89-92.

Stec, E. (2006). Using best practices: librarians, graduate students and instruction. *Reference Services Review*, 34(1): 97-116.

Williamson, K., & Bannister, M. (2003). Through the looking glass for librarians: a training lens to improve and fast track learning of databases. *Australian Library Journal*, 52(2): 125-133.