

# **A humanistic approach to information literacy training : the programme at the Commonwealth Scientific and Industrial Research Organisation (CSIRO) J. M. Rendel Laboratory, Rockhampton**

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## **Introduction**

This paper provides a critical analysis of the philosophical bases of the information literacy training programme at the CSIRO J. M. Rendel Laboratory Library. It outlines the organisational environment in which the programme operates.

Information literacy is defined generally, and elements of the specific programme at the site are described. The paper reflects on the needs and interests of the staff who are involved in the programme and shows the methods and content. The relationship between the trainer/facilitator and learner is identified as a collaborative one with a philosophical basis of humanism. Information literacy is recognised as being liberating but it is seen as being dependent on the learner more than the trainer.

## **The organisational environment**

The information literacy training programme being established at the CSIRO Rendel Laboratory Library is developing at a time of organisational change. The programme is in its infancy, in a field, information literacy, that is still evolving. It is undertaken at a site which is slowly being re-established with new staff. The programme is being created by an experienced librarian with a background in successful change management, who is also relatively new to CSIRO. This provides a most flexible environment within which the programme can develop.

## **Information literacy – what is it?**

Whilst Paul Zurkowski is recognised as the first to mention the term 'information literacy' in 1974, issues relating to information literacy began to be discussed in the 1960s as educators began to see the phenomenal growth in knowledge and rapid technological change. (Bruce 1997b:4-5). Snavely (1997:9-13) discusses the issues surrounding the terminology, differentiating it from bibliographic instruction, library

skills and library instruction. This suggests that Plomb and Carleer's statement in 1987 (cited in Bruce 1997b:13) still holds true that:

Information and computer literacy as a label for a new domain may mean different things to different people. This can be partly a consequence of not being well informed about the goals and content of (information and computer literacy), but also because what is being conceived as (information and computer literacy) is still developing.

The Australian Library and Information Association (ALIA) succinctly defines information literacy as the ability 'to identify, locate, access, evaluate and apply the needed information'. (ALIA 2001). Doyle (1994:3), Bruce (1997a:3-16) and Candy (cited in Catts 1998:1) further define the term with greater specificity, Doyle's definition being that:

An information literate person is one who:

- recognises that accurate and complete information is the basis for intelligent decision making
- recognises the need for information
- formulates questions based on information needs
- identifies potential sources of information
- develops successful search strategies
- accesses sources of information including computer-based and other technologies
- evaluates information
- organises information for practical application
- integrates new information into an existing body of knowledge [and]
- uses information in critical thinking and problem solving.

### **The information literacy training programme at the Laboratory**

Doyle's definition above (Doyle 1994:3) serves as a fair description of the elements involved in the library's programme of training at the Rendel Laboratory except for three elements. Because of the highly specific scientific research in CSIRO, for the majority of information users, developing 'the evaluation of the information' and 'use of critical thinking and problem solving' skills are the responsibility of the scientific teams and not the librarian/adult educator. In addition, some researchers not only 'integrate new information into an existing body of knowledge' but also create new knowledge from information.

At the Laboratory the term 'information literacy' is not used because, when this terminology was used in a draft vision statement earlier in the year, some researchers

at an associated Laboratory were offended by the term. They read 'information literacy' in terms of a deficit or remedial state. They did not see it as a widely used educational term. To avoid educational/library jargon, the term chosen to describe the training at the Laboratory is 'Information Resources Training' which is clear and less contentious to the participants.

### **The needs and interests of the staff**

The staff in the information literacy training programme range from scientists and laboratory technicians to a facilities manager and administrative and field staff. The scientists more explicitly and most frequently identify as seeking information literacy assistance but are not the only beneficiaries of training opportunities. As Tennant and Pogson (1995:3) point out, in organisations, compared to school based education, teachers of adults are often subordinates of their learners. The majority of the staff this trainer works with are higher in status within the organisation and have a higher level of education, holding doctorates or working towards their PhD.

Scientists are intrinsically motivated to learn and to discover. Teaching information skills to staff who are highly intelligent in an organisation oriented towards using and extending knowledge is a situation many trainers, quite correctly, could envy. Whilst popular culture may have it that scientists would find it difficult to admit they do not know something, this has rarely been the case at Rendel Laboratory. The scientific staff are experts and so specialised in their field that most are able to recognise that others have specialised knowledge.

Some scientists, especially more senior ones, see the library more in terms of a physical collection and the librarian as the expert searcher. There are fewer opportunities for training in these latter situations as often these same scientists, especially those with significant administrative responsibilities, find themselves too busy to spend time acquiring information literacy skills. Coming most recently from an academic library environment, this attitude was at first disturbing to the trainer/facilitator who had been instilled with the view that she should train all researchers. In the past two years she has come to a clear realisation that there is no point in pushing training on to people in this situation, as it would be a waste of both

her and the scientists' precious time. Bundy (1999:4) suggests that it could be argued that being information literate could also include 'recognising when the services of an information professional is appropriate and cost effective'. This is an interesting approach, especially when you consider the considerable difference in hourly wage between a librarian and a senior scientist. It is not an entirely convincing argument though, when figures from the National Health and Medical Research Council (NHMRC) show that researchers who did their PhDs before 1970 are not being cited in the high impact journals and receive less than the expected citation rate. (Butler 2001:24).

The participants in the programme vary greatly in their information literacy skills and in their expectations of the trainer. Many of the staff at the Rendel Laboratory have recently been appointed and come from other organisations with different information resources. Also many are on term contracts or visit as part of collaborative projects. Increasingly scientists are being appointed from overseas, which not only introduces an intercultural element to the process of training, but it also means that many of these people are in a process of personal adaptation with steep learning curves professionally and personally, quite apart from their information literacy skills. Although there are instances where this is not the case, the greatest variability in the learners' capacity to recognise their need to learn information skills is their difference in age, with, in general, younger staff more ready and able to commit to learning the complex range of skills.

Because so many staff are new, it also provides a healthy environment to learn new skills without concerns about losing face because the library collection, the CSIRO intranet, the online catalogue and the database interfaces are, in most cases, new to the staff, so they can not be expected to know.

A consistent characteristic of all researchers, which must be taken into account in the teaching-learning exchange, is the researchers' lack of available time to give to acquiring information literacy skills. Deadlines for delivery of results for outside funding bodies means pressures and intense focus on their work. Also many Rendel Laboratory scientists visit other CSIRO sites or travel overseas as part of their work

so attempting to timetable training sessions which all can attend on a regular basis is not realistic.

### **Teaching-learning theories**

The dominant model in the information literacy literature, and also in practice, has been behaviourist (Bruce 1997:1) with its emphasis on measurable skills and abilities and its focus on designing learning packages so that specific skills are taught and able to be demonstrated. Bruce (1997a:7) correctly points out the weakness of such a model when she states:

Teaching specific skills and knowledge is fundamentally at odds with the very idea of information literacy which suggests that knowledge and skills are quickly outdated, and that information literacy involves being able to learn and relearn in the face of constant change.

This trainer/facilitator has familiarised herself as thoroughly as she can with the most important databases and has, ready at hand, printouts of guides and help files as ready reference for commonly used resources, but she does not expect she or the scientific staff will learn and remember all there is to know about a resource.

Her approach is more pragmatic and more responsive to the immediate needs of the busy learners, and the busy trainer (who has other library duties in addition to being a trainer). When a staff member recognises a need to know, she teaches the skill. Her philosophy of teaching is firmly founded within Knowles' andrological model (Knowles 1990:57-63) which in essence is that adults will learn something to solve real situations and they are motivated to learn something when they recognise the need to learn it. She also identifies the wide variation in skills, past experience, learning styles and motivation in the scientific staff she serves, so each teaching-learning transaction is personalised and paced to their needs, attention levels and the time available. The interaction also recognises the trainer's needs and capacities so it is collaborative more often than not, respecting both parties, with the trainer also sometimes learning skills on a 'need to know' basis.

## **Method and content**

Initially the trainer was concerned that there were no computer training rooms to undertake training demonstrations and for potential learners to work through guided exercises at a computer, for this was the information literacy training she had experienced mostly herself as a participant.

However having analysed the nature and number of her learners, her philosophy of teaching and her experience of her workplace, she no longer considers this method of training most appropriate. She has observed that even when staff recognise that a training session would probably be good for them, other pressures on their time and their preference usually mean poor attendance.

Freed from a training room, this trainers' challenge is to build up rapport and align herself sufficiently with the research teams so that scientists think to use her as the training resource she is. She has been responding to what Friere (cited in Vercoe 1995:72) has described as a 'problem-posing approach' to learning. Burns (1995:95) identifies this as being an effective teaching method with adults as 'new material is best presented as a solution to a problem already identified by the person'.

The importance of relationship building in a collaborative approach such as this, is particularly important. It is also seen as important that the trainer enunciates to staff and discusses with them how she sees her training role in this laboratory and why. As Tennant (1995:177) describes, the trainer's conception of her role and the learners' expectations of her are a potential source of confusion and conflict. Galbraith (1990:7) states that 'having a friendly personality and a wealth of interpersonal and human relation skills' is not enough to be an effective adult educator. Experience has shown to this trainer that these attributes are most important for a humanist oriented trainer - in order to build up the rapport and trust needed to facilitate learning and sharing and in order to keep communication open to encourage opportunities for teaching. She shows she is available and willing to help, and offers assistance in a light way that permits people to pursue their research independently if that is their preference.

The CSIRO library intranet page is rich with resources to assist her and the researchers with opportunities for self-paced learning. It also provides links to instructions in how to use the various information tools, so in most cases there is no need for her to prepare training guides for specific databases. However since the 'Using the libraries' intranet caters for all scientific staff across the country in all fields of science, it can be confusing to newcomers who are keen to learn which are the resources held by CSIRO in their specific field. The trainer has developed over time, a one page sheet which outlines a list of learning goals and includes the names of resources on the CSIRO library intranet page which could be most useful to researchers at her site. Given the resources CSIRO has invested in creation of the intranet, it is clear the organisation supports staff being able to progress their learning themselves should they wish to do so.

Teaching generic skills as recommended by Catts (1998:2) is recognised by the trainer as an effective way to approach information literacy training. Because formats and interfaces change and will continue to develop, this trainer advises staff in how to find their way through the technical infrastructure, suggesting for example that when they go to use a new resource, they ascertain how truncation (wild card) searches, phrase searches and the format for an author search is done and where 'help' is located. She does not attempt to teach staff the specifics for each and every database. This approach gives general direction but is not prescriptive. It also respects the individuality of the learner.

### **One-to-one training sessions**

In training sessions, the time for the session is largely at the researcher's discretion, and times are easily re-negotiated to ensure the researcher is ready. If necessary the trainer will negotiate regarding the time to be sure she is fully conversant with the information resource if it is a resource the trainer/facilitator is still building her skills in or if she has not used it recently. There is no competition and the 'learning climate' as Elias (1980:123) describes it is 'supportive, cooperative, informal, and in general, cause adults to feel accepted and respected'.

Training is usually done with the researcher sitting at the PC in control of the speed and potentially the direction of the activities. It is done in the librarian's office rather than on the library PC or in the researcher's laboratory so the researcher is not inhibited by the presence of others who could hear the interaction. The aim is to have a low stress session for both participants. Search strategies are discussed using the researcher's knowledge of the field and the librarian's knowledge of the database requirements, and these may be amended and tested during the training for effectiveness. It can be, and has been, a rich and enjoyable sharing and learning experience for both the learner and trainer, as along the way the librarian/adult educator is also learning about the scientific field. They are co-learners in this respect.

The amount to learn is such that often several sessions are needed. At the end of the first session, the list of learning goals is used to document learning to date and so both parties have a record of other potential areas for training. The researcher is encouraged to call by if they have any queries or problems as they proceed with their resource discovery on their own. Knowing the researchers have much else to learn and do besides learn about information resources, some time may pass till the next session. A question over morning tea or casually can get a feel for the researcher's readiness to move on, and is often a prompt to discuss any information access problems. It is a low key approach which may appear casual but is directed at the needs and motivation of the learner. As Elias (1980:123) states 'the student is free to learn what he or she wants to learn and in a manner desired by the learner'.

Although usually the training is related to work queries, queries relating to study or personal interest queries are also opportunities for teaching-learning interactions, where for example in the process of finding a resource, some training in the organisation of materials may be given or examples of successful searches can be observed. This also demonstrates the humane environment of the work culture, as interests other than purely work are accepted in the workplace. The staff are seen as people with other dimensions than only their work role.

## **Demonstration**

Although training to individual needs is the focus of this programme, there is some flexibility so, for example, when a new resource is introduced, the trainer/facilitator will give a demonstration for those who wish to and are available to attend. A little 'banking education' a term Friere (cited in Vercoe 1998:58) used to describe when the teacher 'deposits' information into passive learners, can be an efficient method of delivering knowledge to several staff at one time.

## **Beliefs about social change**

The Australian Library and Information Association's (ALIA) statement on information literacy (ALIA 2001) states that:

Information literacy is a prerequisite for:

- participative citizenship in a liberal democracy
- the production of new knowledge on which the future economic success of Australia depends
- personal empowerment
- lifelong learning
- the solving of global problems.

This is a strong statement with information literacy seen as crucial to social change. Since scientists see themselves as producers of new knowledge and often seek to solve global problems, it could be assumed that they would recognise the association with their work and welcome the opportunity to become more information literate. Whilst this is the case for some scientists, many more would not see it as their primary focus because of the time constraints mentioned earlier.

The trainer/facilitator at Rendel Laboratory would ideally prefer all staff at the site were information literate because she is aware of her own sense of power and independence in being able to find information on a wide range of subjects from many resources. She recognises that the capacity to seek and find information is personally liberating and uses it in her life. She is also motivated to share this knowledge with all staff at the site, so supports the radical philosophy that information literacy education is liberating. Her understanding of people and acceptance of the difference between people, however, overrides this philosophy.

Hers is foremost a humanist approach investing responsibility for learning on the learner.

### **Conclusion**

The librarian/adult educator at Rendel Laboratory is a facilitator, a co-learner and a resource person for training resources in information literacy. She also performs the role of instructor, sometimes incidentally with other activities and with subtlety. The information literacy programme at the Laboratory is based primarily on a humanistic philosophical basis. Whilst recognising behaviourist elements in much information literacy training, this is not considered appropriate for this work environment. Although concerned for learners to become independent through acquiring information literacy, the adult educator respects the readiness and openness of the staff to learning, and paces teaching to their individual needs.

In CSIRO which is supportive of independent learning, and with a staff that is inherently part of a learning culture, there proves to be a good match with this adult educator's humanistic approach to training and the primarily learner centred methods used.

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