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**Article:**

Booth, A. and Brice, A. (2001) Research Column: The CRITICAL Skills Training in Appraisal for Librarians (CriSTAL) project. *Health Information and Libraries Journal*, 18 (3). pp. 175-177. ISSN: 1471-1834

<https://doi.org/10.1046/j.1471-1842.2001.00340.x-i2>

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## Research... The CRITICAL Skills Training in Appraisal for Librarians (CriSTAL) project

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Increasingly the health information professional's role in supporting evidence-based practice requires familiarity with critical appraisal skills, resources and techniques.<sup>1-3</sup> Involvement in critical appraisal is not without controversy—not only do many clinicians consider that librarians are ill-equipped to assume an extended role in exploiting research literature, but librarians themselves may have concerns about taking on this mantle. Our collective experience with librarians in many of the NHS Regions, as well as at a national level, suggests three particular barriers to greater participation by librarians in critical appraisal:

1. a lack of clinical knowledge (the context);
2. poor knowledge of research methods and designs (the methods); and
3. a lack of confidence in managing the statistics (the skills).

Would librarians be more amenable to take the lead in critical appraisal if their experience came from within their own evidence base, namely the health information literature? Would the opportunity to conduct critical appraisal within their own professional context encourage practice of evidence-based librarianship? These are major questions that require properly funded research. In this research column we describe an unfunded pilot project that provides an early indication of the potential for such an approach.

The CRITICAL Skills Training in Appraisal for Librarians (CriSTAL) Project, a collaboration between the School of Health and Related Research (University of Sheffield) and the Institute of Health Sciences (University of Oxford), aims to establish whether it is practical and feasible for health librarians to apply critical appraisal skills in their day-to-day practice. It capitalizes on librarians' knowledge of

the context of their work to introduce a rudimentary knowledge of research design and to present necessary statistics in a way that is meaningful and non-threatening.

Although there are examples of randomized controlled trials and systematic reviews in the health information literature, they are not plentiful. It was decided that it would be more realistic, both in terms of availability of the literature and librarians' familiarity with it, to focus on other forms of evidence. Two types of health information literature were identified as being particularly important, based on purpose rather than study design. These were use studies and information needs analyses. In the absence of suitable checklists to appraise these studies it was decided to develop appropriate appraisal tools. Two complementary approaches were used: adaptation of existing generic checklists and a 'blank-page' generation of criteria from a brief inspection of existing exemplar studies. Criteria from both approaches were then merged and refined to produce a synthesized tool. The tool for use studies was tested briefly and opportunistically in a session with librarians in Oxford and this yielded valuable comments.

Two half-day pilot workshops were organized, one in Oxford and one in Trent. Although the locations were determined primarily by access considerations they also represented contrasting Regions with respect to prior familiarity with critical appraisal methods. These workshops were modelled on the Critical Appraisal Skills Programme (CASP) format used to deliver appraisal training to health professionals. Participants were presented with a decision-making scenario from a library setting and asked to brainstorm sources for informing their decision. This was followed by a brief discussion of the respective merits of these sources in terms of both accessibility and authority and an introduction to critical appraisal techniques. The main feature of the workshop was a critical appraisal session where participants were presented with another scenario, a research article and the corresponding checklist and required to resolve the scenario. The scenario involved provision of databases in support of evidence-based healthcare and the article looked at use of evidence sources by Australian general practitioners.<sup>4</sup> The workshop concluded with a discussion of the process, an outline of the way forward and a detailed evaluation. Both workshops were designed to be as similar as possible, although different facilitators were used at each venue with two co-facilitators in Oxford and a single facilitator in Trent. Oxford participants also had access to the paper beforehand while Trent participants were introduced to it only on the day.

The evaluation was based on methods used by the CASP team when conducting their own pilot workshops. Participants were asked questions concerning their objectives in attending the workshop, whether these had been met, what their general understanding of research was, and whether they had read the paper before the workshop. They were also asked questions about the length, content and presentation of the workshop sessions and the general format, organization and learning environment. They were asked to indicate whether they felt that the workshop had been a good use of their time, and if they had enjoyed it.

Participants' main objectives in attending the workshop were to learn how to appraise a piece of library research and to contribute to their general professional development. Many also wished to increase their understanding of research and to gain expertise to pass on to colleagues. Generally, they considered that they had undertaken a little research themselves with only a minority having undertaken a lot of research or, conversely, not having undertaken any. Again only a minority reported that they read a lot of research papers or that they used existing user guides to help in appraising research papers.

Almost all the participants felt that the critical appraisal session had been the right length. Although the half-day format had been devised for primarily pragmatic rather than educational reasons it was felt by most to be appropriate and to have been a good use of their time. Most participants had understood the meaning of the questions used in the checklist, although a significant minority did not. Comments received endorsed the small group work as supportive, inclusive and discursive. No work has been done to reinforce learning through follow-up.

The CriSTAL pilot project has addressed the need for a tool to appraise library related literature and the feasibility of using workshops as an effective educational intervention. It has demonstrated that the appraisal tool, delivered in a workshop format, helped participants improve their understanding of research methods and their ability to use research to aid their decision making. This is in line with findings from CASP evaluations of their general appraisal programmes<sup>5</sup> and with a recent systematic review of critical appraisal research studies.<sup>6</sup>

Nevertheless, participants pointed to a continuing association between an ability to use the tool to judge the validity, reliability and applicability of the research paper and prior knowledge of statistical techniques, research methodology and terminology. Several participants alluded to the difficulty of assessing statistics as a major block to appraising the paper—this correlates with our observation noted

above concerning librarian participation in general critical appraisal sessions. Suggested solutions that we intend to explore are the development and preparation of pre-workshop tools and worksheets or glossaries for terminology to enable participants to get the most from the learning possibilities in the workshop.

An interesting observation, shared by many participants, was their desire to have had more time to read the paper and to prepare in order to improve their ability to reach a decision. This perception was encountered irrespective of whether they had received the paper beforehand or not. It is unclear the extent to which this was attributable to a need to practice the technical skills required to appraise the paper or to familiarize themselves with the context of using a paper for day-to-day decision-making.

A tension felt by some participants was the fact that there were two elements to the workshop—appraisal of the checklist itself and use of the checklist to appraise a paper. This was an inevitable consequence of the piloting process and will not carry over into the modified version of the workshops. The piloting also revealed some overlap and duplication between issues covered by different questions and the instrument will be revised in the light of these comments.

Although CriSTAL seeks to address evidence-based librarianship from the consumer end, its further success depends on the production of rigorous and usable research studies. As one participant observed ‘the frustrating thing is the gap between the ideal of how library research/writing should be and how most of it actually is ...’. In seeking to advance the CriSTAL model a number of requirements can be identified. These include not only the need for good examples of research but also the provision of products of appraisal such as critically appraised topics (CATS).<sup>7</sup> It is not enough simply to improve the depth of critical appraisal skills in the profession. There is an associated need to investigate better ways of getting appraised and synthesized research reports to the profession in more readily accessible formats. Whether we, as a profession, will rise to this specific challenge is certainly *not* crystal clear!

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