Research: from concept to presentation

Poster Presentation – a visual medium for academic and scientific meetings

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SUMMARY

Academic poster presentations are used as a medium of knowledge transfer by a wide range of health professional groups. Posters also provide a means of publication for academic and professional contributors. Posters are designed to give a visual representation of an issue that firstly attracts attention, and then conveys an intended message. Whilst the poster medium has become adopted into the publication orthodoxy of the scientific and academic communities, there are acknowledged limitations regarding the depth of knowledge transfer, issues of compilation and production, and the related viewer conception. If treated as a standalone medium, the limitations of a two-dimensional, page limited format may not provide the ideal opportunity to deliver the depth of information required within the academic context. Despite these limitations however, the continued use of posters is justified when supported by author presentation or multi-media resources. This paper aims to provide an overview of the current concept and practicality of academic poster publications. It also outlines by example, some of the wider principles of poster compilation and presentation, for use by those who may utilise the medium at academic and scientific meetings.

BACKGROUND

The presentation of academic posters within healthcare and science is common as a means to disseminate information and new ideas to colleagues.[1–3] Considering the widespread adoption of the medium, there is an evident lack of published material that addresses the concept. Initially, academic posters were viewed as being an innovative approach to professional presentation, although a variety of issues are raised within available literature, which both promote and detract from the medium. On one hand, it was good to have an alternative medium that was not so 'formal' as typical journal and academic literature, but it was viewed from some quarters, as lacking the academic rigour that professional knowledge dissemination required - how could you get over a serious issue, by means of a 'pretty picture'? Much of the published material stems from field of nursing,[2–8] with some address from the medical and scientific fields.[1,9–15] The main focus of extant literature addresses poster compilation, with some insight offered into the overall aims of poster presentation. Given the high occurrence of poster presentations within the academic forum, surprising little empirical work has been formulated to evaluate the efficacy of the medium.[1,9]

POSTER PRESENTATIONS: BENEFITS AND LIMITATIONS

Posters display a 'snap-shot' overview of a topic. This may be viewed as a combination of creativity and scholarly activity, with the aim to disseminate information. In common with advertising, the provision of key-point information or messaging to passers-by is paramount.[16] Additionally, the issue of 'selling' the presenter's work is undeniably a prime objective of poster presentation.[12] To this end, the visual impact of the end-product plays an important role in capturing the attention of the viewer. In the professional setting, the objective of a poster is to stimulate interest and participation, with an aim to developing understanding and practice within a given area. Whereas academic papers have the capacity to provide a greater depth of information to support an issue, posters are often supported orally by the presenter, in response to an expressed interest or enquiry. Although this may include an initial opportunity to outline work in a brief formal presentation, more often than not, it relies on the 'passing trade' that is encountered during scheduled poster viewing sessions. These allow further discussion and an informal provision of supporting or clarifying information.

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Conceptually, the idea of poster presentation has been viewed as less formally challenging than that of an oral presentation.[6] It may however be argued, that in fact, the presenter is not granted the same structured opportunity to put their case with pre-collated material; but is required to elaborate and support issues that are open to random ad∼hoc address.[5] Whilst a similar level of research and assimilation takes place in preparation of the academic work, the poster itself is limited in presentational format to being a primarily communicative rather than informational medium.

STYLE VERSUS SUBSTANCE

The 'passivity' of informational delivery in posters has been identified by some as grounds to oppose the idea of visual presentation and to detract from the capability of the medium to transfer or impart knowledge. Others though consider the traditional poster medium to be thorough by nature of its refinement.[2] Succinct writing is an acknowledged academic skill, which can be quite challenging to perform. Without the approximate 3,000 to 5,000 word scope provided within article or paper publication, there is a demonstrable restriction in the ability to provide viewers with enough supporting information, required for analytic consideration. An example of this may be given by 3 academic posters, presented at events in the EU. Feedback from delegates on the A1 poster presentation (Figure 1) at the event identified that whilst the content was in enough depth to be self-supporting, by its very nature it lent to a text-heavy appearance that was potentially demanding (and therefore off-putting) to the viewer.

The substitution of words for imagery is appealing, and contributes to the achievement of visual impact.[2,12] Another presentation (Figure 2) made use of a large centrally placed emotive image, surrounded by topically headed issues. The poster presented 1,327 words, although a primary focus was placed on the aesthetic composition of the work. Feedback from the presentation event was positive with regard to visual appeal and the coverage of the topic, and many viewers requested further discussion and background on the issues raised, which achieved the objectives of the presentation.

From this, it may be taken that the engagement achieved by a visually appealing presentation will also require a commensurate level of supporting information, in order to meet the needs of the viewer. In detraction however, both the image and the information presented within a traditional poster are seldom available to the viewer after the event, other than in recollection. Creating a lasting mental image will often assist in future informational recall,[3] however traditional academic posters are not ideally suited to replication or mass distribution and it is often only made available in the form of an abstract in the conference/event proceedings.

"THE MOST BRILLIANT PIECE OF WORK IS OF LITTLE VALUE TO THE SCIENTIFIC COMMUNITY UNLESS THAT WORK IS KNOWN" [5]

In light of this view, we have a duty to disseminate our work and poster presentation provides an excellent opportunity by which this may be achieved. Experience and thoughtful preparation in a poster's compilation can help to refine the end-product in both aesthetic and academic appeal and becomes an acquired skill in itself. As currently employed within the identified disciplines of science and academia however, posters often fail to fully answer the expressed needs of those involved. Visual and literary mediums compete for balance within the space limitations of the format and it is perhaps this 'trade-off' of application that detracts from the overall appreciation of the genre as being academically robust.
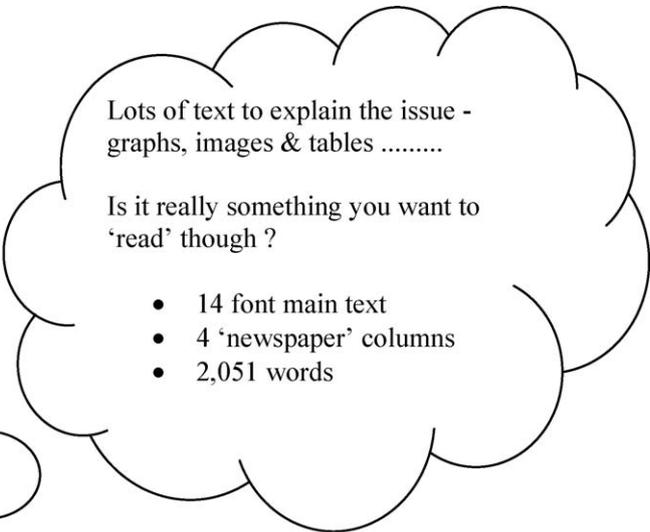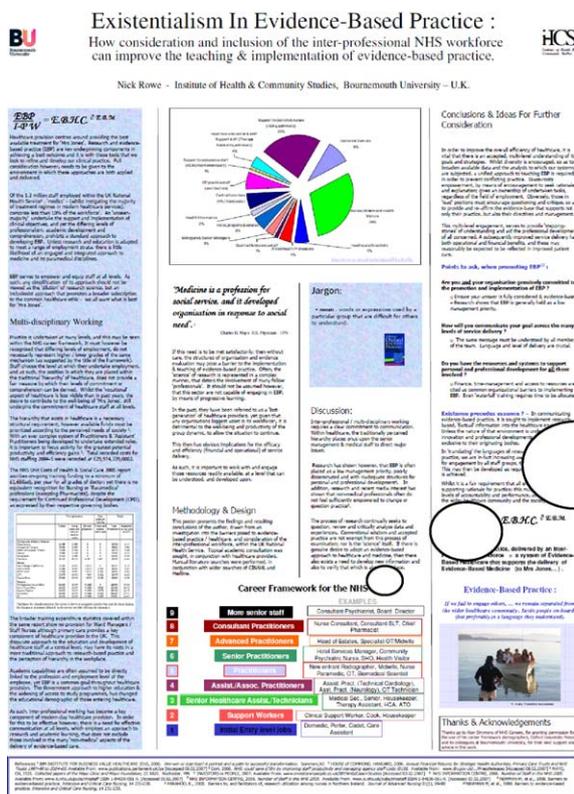
Figure 1. Rowe, N., 2007. Existentialism in Evidence-Based Practice: How consideration and inclusion of the inter-professional workforce can improve the teaching & implementation of evidence-based practice. *In: 4th International Conference of Evidence-Based Health Care Teachers & Developers,* November, 2007, Taormina, Italy.
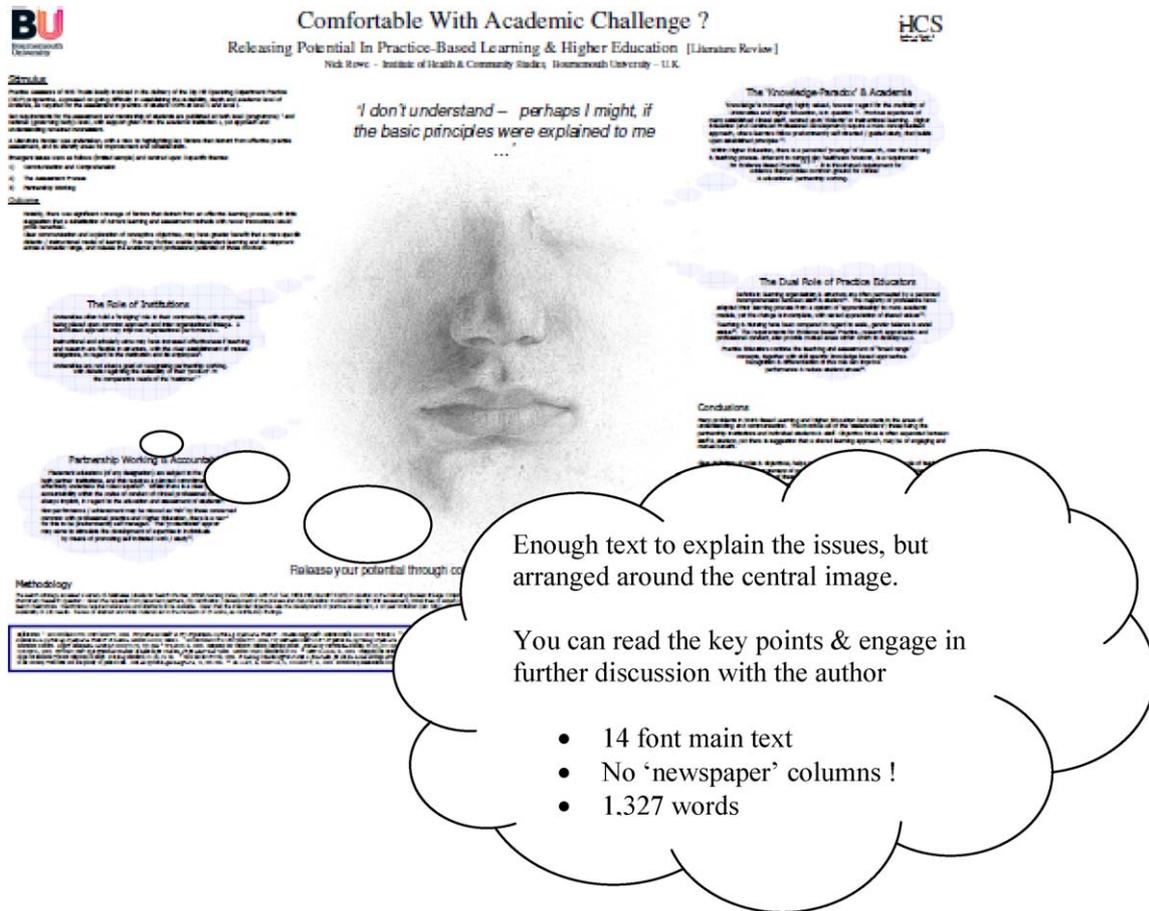
Figure 2. Rowe, N., 2007. Comfortable With Academic Challenge? Releasing Potential in Practice-Based learning & Higher education [Literature Review]. *In: Association for Peri-Operative Practice National Congress 2007,* October 2007, Harrogate UK.

Professional conferences employ the medium of traditional poster presentation so as to present an opportunity for greater numbers of delegates to present their work. It has been maintained that it is the content of a poster as a reflection of the quality of the work represented, that is subject to peer endorsement – not the product itself, so presenting via this medium is a worthwhile endeavour.[12] Additionally, in 2004 the US Court of Appeal ruled that a poster presentation depicting a scientific concept was deemed "to foster general knowledge" of the subject concerned and so constituted a genuine form of publication.[11] This again recommends the medium as a valid output for the dissemination of research, professional issues and opinion.

IMPLEMENTING INFORMATION TECHNOLOGY TO BROADEN POSTER EFFICACY

Literature acknowledges that the medium of poster publication is both favoured and appropriate to the presentation and dissemination of scientific and academic information, within the identified professional settings. Effective poster compilation remains an identified issue, with an emergent dichotomy in that those involved value the 'snap-shot' appeal of a visually attractive poster, yet at the same time regret the restriction on the depth of delivered material that this entails.

The notion of combining information technology (IT) with poster presentations was first presented almost a decade ago[14], however, little empirical research has been performed to identify how effective use of IT systems would be at increasing the current stand-alone interactivity of the medium. Combining IT systems with poster presentation has the potential to increase the interactivity of the presentation with the viewer and tailor information to suit individual learning styles and objectives.[1,9] This may range from the simple hyper-linking of a digital presentation (Figure 3) to further system-linked documents, web links and media, to a fully interactive touch-screen production that employs a range of audio-visual options to the user.[1,9] Given that many posters are compiled using digital software (i.e. PowerPoint), there is no reason why such additional features may not be built-in and made available independently, using commonly available skills and knowledge.

In order to demonstrate the point, the above poster was presented both as a traditional A1 poster, and accompanied by a fully interactive digital version (PowerPoint), shown alongside on a laptop computer and a linked widescreen TV monitor. Viewers saw the paper version first, but then used a cordless mouse to interact with the digital version on-screen. This gave access to a full range of media, that supported the issues raised & linked to the institutions & individuals involved. Feedback was overwhelmingly supportive of the interactive development, which viewers (users?) said helped to improve their understanding of the issue and also enhance their overall experience.

10 KEY TIPS FOR POSTER COMPILATION

Posters presentations are a recognised form of knowledge transfer and publication. Their overall aim is to provide a project synopsis that may promote further discussion between the viewer

Figure 3. Rowe, N. and Ilic, D., 2008. Traditional academic posters - a suitable medium for knowledge transfer? Transition from the Analogue Age. *In: 1st Bergen International Conference: Evidence into Practice - Challenges for Lifelong Learning in Nursing,* May 2008, Bergen, Norway.

and presenter. In undertaking the presentation of a scientific or academic poster, the following points may be observed:

1) Just because you are not presenting a lecture or other more formal form of knowledge dissemination, do not 'scale down' your commitment to presenting your findings or opinion in a clear and robust manner.
2) Posters are primarily a visual medium, so attract your audience. Attendees view posters that are of interest to them ~ if their interest is not aroused from a distance, they will not come to view your poster and the potential for knowledge dissemination is lost.

- Think of the we see in shops and the high street; what makes people stop and look ~ the image or 'catchy slogan', which can be readily seen from a distance.

An example of this may be the central image in Figure 2:
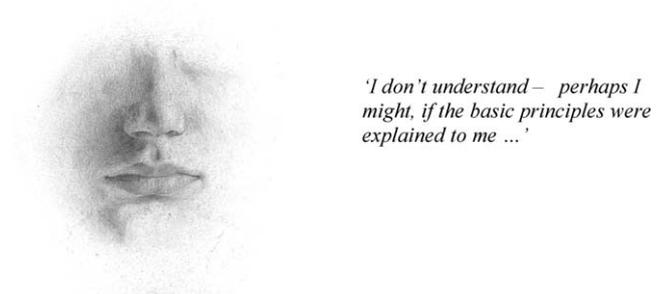
'I don't understand – perhaps I might, if the basic principles were explained to me …'

'What is this poster about; I think I'll take a closer look?' There is the added suggestion in a header, that because the viewer may not immediately understand, they should engage further for a better explanation. The text was Bradley Hand ITC, 40 font, so it

stood out clearly from the body text of the poster & drew the eye.

3) Poster and abstract submissions should provide event organisers with an overview of the specific topic, together with an indication of its potential to foster knowledge transfer to engaged viewers (this may be achieved by consideration of the posters visual and literary content, together with the text of the abstract, which is often included in published proceedings). Submissions may include mention of any additional materials/links that would be made available at the time, to help support the presentation.

- You would like your work to receive the professional acknowledgement and attention it is demands, so give both organisers and your viewers, the evidence they need to make an informed judgement.

4) Poster viewing sessions are often held during interludes from formal oral presentations and workshops. Think of it as wandering through the trade-stands at a conference. You have attracted the viewer to stop and look but:

- What makes them engage in further discussion - What makes them 'buy' the product or point of view on display?

Figure 1: The title 'Existentialism In Evidence-Based Practice' contained the topic (Evidence-Based Practice) that was central to the 4 day conference. The philosophic addition alluded to the posters theme and a pseudo-equation again was designed to arouse the academic interest:

$$\frac{\mathcal{E}\,\mathcal{BP}}{\mathcal{I}\text{-}\mathcal{PW}} = \mathcal{E}.\mathcal{B}.\mathcal{H}.\mathcal{C}.\,{}^{\partial\,\mathcal{E}.\mathcal{B}.\mathcal{M}.}$$

Are you also wondering what it means...?

- Be the attentive but discreet 'salesman', who is there to provide a service (not to hard-sell a product). Posters need support and rarely function as stand-alone media.

5) You are trying to promote your ideas and work to others & introduce them to your way of thinking. Perhaps more so than in detailed oral presentations, your work is 'pitched' at a passing audience, in an attempt to engage them in further dialogue, so you need to be active in the process and 'sell' your point.
  - Be confident in putting yourself and your work forward ∼ there may be like-minded people out there !

6) Do not deter your potential audience with reams of text - they could just as well read a journal article or listen to a didactic lecture! Think of the limited time that any viewer will have to spend with you and your poster. Can you get over the salient facts in an engaging way (visually and orally) that make viewers want to spend their time with you?
  - Lots of small and close typed text is not likely to attract a passing viewer audience *(especially if the poster next door is clearer and more visually attractive).*

7) Be sure of your posters objectives and be prepared to deliver a concise nutshell summary in less than a minute.

- Become familiar with your topic ∼ the only way you can confidently expand and support your work is to be able to enlarge on any given aspect.

- Discussions are often informal and ad∼hoc, so be prepared for potential areas of enquiry and acknowledge any knowledge deficits you or your work may have.

8) Compile your poster clearly with a focus on visual aesthetics ∼ it is a visual medium.

- Title/Background/Overview/Key Points/Summary/Conclusion/References Contact information - make sure you clearly address the basic elements.

- Signpost viewers through the key points and consider titling/numbering the key areas you address. Sequential logic: A > B > C etc

- Leave plenty of space between each area of your poster and arrange of them in a visually attractive format.

  Figure 1 was focused on informational delivery - although it contained images, tables and graphics, it still looks like a.. newspaper. We either deliberately read the 'papers' (posters), or pick one up if a headline or image catches our eye, but 'reading' a poster can be a little like working through your coffee break - give viewers senses a change !

  Figure 3 however, used IT to expand the available space. Small hyperlink buttons ▷ were inserted to indicate where further information was available (as previously discussed) and each section was signposted in a contrasting colour and font. Likewise, provocative comments were added to the hardcopy poster at each section, in order to demonstrate the limitation of the traditional medium -'(Unfortunately, you can't open this link for a more detailed debate.../Sorry, we forgot this is a 'traditional' poster . . .). Viewers quickly came to appreciate the point being made.

9) Have colleagues view your poster whilst it is in preparation ∼ we all have different perspectives on visual media & being close to the subject often diverts you to minutiae that you feel are important (and may be utterly boring to others).

  Is it engaging, is it simple, would they want to know more (if they were interested)?

10) Give links to supporting information by references and acknowledgements.

  Further details can then be provided by you or multi-media as available (photos, links to video footage, websites and other interactive media). You may have a laptop computer or other portable media with you to support this.

  Provide materials (your own relevant unpublished papers, links to published data etc) and business cards with your contact details & your topic area/presentation title ∼ a picture of your poster is often a good visual reminder . . . . (who was that guy again??)

SUMMARY

Posters offer a valid platform from which to introduce a topic of potential interest to fellow professionals and also to engage with them in matters of academic/scientific interest. As such, they present a challenging opportunity for all engaged in professional collaboration, not just the 'novice' presenter. Poster compilation and presentation is an individual skill-set, which entails both concise writing and presentation ability. As such, successful engagement and poster publication can thoroughly enhance the credentials of the author, as well as enabling them to engage in the professional duties of knowledge transfer and dissemination.

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