Surgeon training via video conferencing and the Internet

A. T. Vranch
Academic Developments Manager, Information and Learning Services, University of Plymouth, UK
a.vranch@plymouth.ac.uk

A. Kingsnorth
Professor of Surgery, Postgraduate Medical School, University of Plymouth, UK
andrew.kingsnorth@phnt.swest.nhs.uk

Abstract

SANTTSUR is a pilot project which was set up to evaluate the benefit of, live, interactive, digital TV broadcasting, combined with video conferencing and access to the Internet, as an integrated distance learning medium for doctors in basic surgical training. A series of thirty 90-minute TV broadcasts has been developed, aimed at doctors in the working in 26 hospitals across the UK and Ireland. Overall, the response from trainees on the general approach was favourable. Looking to the future, it is envisaged that the TV broadcasts will be enhanced by further integration of web resources and e-mail communications, both by enhancing the learning environment and for developing a viable business plan.

1. Introduction

SANTTSUR (SAtellite Network: Telematics Training for SURgeons) is a pilot project at the University of Plymouth, in collaboration with the Royal College of Surgeons of England, which was set up to evaluate the benefit of, live, interactive, digital TV broadcasting as a distance learning medium for doctors in basic surgical training. A need for reviewing the methods used in basic surgeon training has been identified in the context of new opportunities arising from developments in learning technologies [1,2].

A series of thirty 90-minute TV broadcasts has been developed, aimed at doctors in the workplace who are preparing for the MRCS (Member of the Royal College of Surgeons) examinations. Broadcast via satellite between October 2000 and June 2001 to 26 centres across the UK and Ireland, SANTTSUR provides a combination of presentations, case studies, expert panel discussions, live surgery, anatomy demonstrations and current affairs to a potential audience of approximately 400 trainee doctors. Interaction is provided using ISDN2 video conferencing, e-mail and telephone for discussion between trainee doctors at the receiving centres and the studio presenters. Live surgery from participating hospitals is incorporated into broadcasts via ISDN6 video conferencing links (Figure 1). A web site provides a means for on-line chat and enables access to presentations and other content from the broadcasts.

2. Broadcast content and approach

The presenters for the SANTTSUR broadcasts are consultants and specialists in specific areas of surgery related to the module topic covered in the transmission. In order to maintain a consistent, high standard of production, all presenters attend a special "training the presenters" course. The whole day course is run at the University of Plymouth TV studio and covers aspects of studio presentation techniques, practical work in using chromakey, preparation of content for broadcasts and aims of the SANTTSUR project. Broadcasts were transmitted in three sets of ten programmes, during Autumn 2001, Spring 2001 and Summer 2001. All modes of operation proposed in the project plan were
implemented in these Phase 1 broadcasts and these modes provided the various styles of delivery during each transmission, including:

- studio panel discussion;
- live anatomy from The Royal College of Surgeons of England via ISDN6 video conferencing;
- topical input from the editor (and other staff) of Hospital Doctor magazine via ISDN6 video conferencing;
- VT inserts for "Case of the Week";
- ISDN2 video conferencing inserts for "Case of the Week";
- ISDN2 video conferencing for surgeon trainee questions;
- telephone dial-in for surgeon trainee questions;
- e-mail submission of surgeon trainee questions.

In order to streamline communications and encourage feedback, a special e-mail address was set up, studio@plymouth.ac.uk. The mailing list was publicised during the live TV broadcasts so that anyone involved in the project (as a trainee, centre manager or surgical tutor) could send messages to the management team easily.

A web site was set up to provide support for the SANTTSUR series of broadcasts. (http://www.fae.plymouth.ac.uk/studio/index.html) The site provided information on the broadcast schedules, copies of Powerpoint presentations for download, access to a group discussion mailing list and links to other relevant web sites.

3. Evaluation

Feedback from trainees was collected for each of the 30 broadcasts, in collaboration with the Royal College of Surgeons of England. This took the form of a weekly questionnaire on a single sheet of paper, which was distributed at each receiving centre to each trainee. The completed questionnaires provided valuable feedback of the trainees' responses and preferences in terms of programme content, style and quality. These included:

- holding attention/stimulating interest
- thematic coherence
- variety of presentation methods
- pace
- technical quality
- relevance of content

In addition, information on pattern of attendance and suggestions for improvement was also gathered. The weekly nature of this process meant that this feedback could be used to fine-tune the style and content of broadcasts very quickly.

4. Discussion

Overall, the response from trainees on the general approach was favourable. The six detailed content criteria and overall rating (on a scale of 6) showed peaks in the 4 and 5 categories, which was encouraging. Individual programmes showed differences, reflecting the variation in content, subject matter and presenter style. The trainees were very positive about the "mini-lecture" PowerPoint/chromakey style of presentation and stressed the importance of having a good presenter. This confirmed the need for the "training the presenters" courses. One disappointing aspect at the beginning of the series was the lack of interaction with questions from trainees. Although questions were submitted via e-mail, phone and through the web site, the level of activity was lower than expected. It appears that, at the beginning, there was a cultural issue in terms of trainees getting used to the different approach offered by SANTTSUR.

Looking to the future, it is envisaged that the TV broadcasts will be enhanced by further integration of web resources and e-mail communications. It is hoped to encourage trainees to make more extensive use of web sites by featuring reviews and live demonstrations of relevant web sites during the TV programmes, with prior notice so that trainees can explore each site in advance of its review. The development of the web site, to include downloadable video, in parallel with the live TV programme content and approach are seen as key factors for enhancing the learning environment and for developing a viable business plan to ensure that the SANTTSUR programme continues.

5. References


SANTTSUR is partly funded by the European Space Agency under the ARTES 3 Programme.