

INTRODUCTION

Queensland Health faces a huge challenge to provide high-quality, consistent and effective training to their Oral Health staff.

The Department's Oral Health Program (OHP) has a work force of approximately 1,200 people comprising dentists, dental therapists, dental assistants, dental technicians and administrative staff who are dispersed widely across the State.

The OHP provides services from 127 community dental clinics (for approx. 850,000 adults), and from 120 fixed and 175 mobile clinics for the State's school system (approx. 530,000 children).

This wide geographical distribution presents a formidable challenge if Queensland Health's goals of equitable access and uniform quality of service are to be achieved.

To support these goals, opportunities for staff to maintain and extend their professional knowledge and skills, and to become aware of shifts in program strategy, objectives and standards, are required.

In response to these requirements, Queensland Health and leading multimedia development company ICE T Multimedia, have collaborated to provide an innovative training delivery platform that:

- addresses the Infection Control training needs of the OHP;
- provides a base for further development into other areas; and
- provides commercial benefits to both parties.

This project demonstrates that effective collaboration can provide real benefits to the parties involved, and that commercial arrangements can be established that address both the individual and collective objectives.

THE PARTIES INVOLVED

A government program called CAMSAC (Cross Agency Multimedia Strategic Advisory Committee), which was managed by the IPB in 1996, was a key factor in the creation of this

project. The CAMSAC program provided seed funding for the development of an initial business case and, as a part of the trial, also streamlined the government purchasing arrangements.

The organisations that have contracted with each other for this project are:

- Queensland Health, through their Oral Health Unit; and
- ICE T Multimedia Pty Ltd, a local company that initiates, finances, designs, produces and publishes interactive multimedia, and markets its products world-wide.

In addition, the following organisations have been actively involved in the project:

- Australian Dental Association (ADA);
- University of Queensland Dental School;
- Dental equipment and supply companies;
- The Queensland Department of Public Works and Housing, who have an interest from a whole-of-government perspective; and
- Clinical staff from operational dental clinics.

OBJECTIVES OF THE PROJECT

The Infection Control in Oral Health (ICOH) project is the first Queensland Government training project that combines CD-ROM based multimedia with complementary internet services.

The primary objectives of the project relate to meeting the developmental needs of staff in the OHP and in addressing the broader Queensland Health goals of equitable access and uniform quality of service. Specific objectives for the ICOH project include:

- development of learning modules related to infection control and disease prevention;
- access to quality information, on demand, *at every point of service delivery*, to support staff in their duties, and to advance their knowledge and skills;
- contribution to changes in workplace practices and extension of clinical skills of staff, thus improving productivity; and

- evaluation of the use of a combined training delivery platform, ie. CD-ROM and on-line access.

Multimedia, with a combined CD-ROM and on-line approach, was selected for this project to meet the staff accessibility goals and because of the much greater training impact that is possible with this method over the more traditional approaches.

The courseware is built by ICE T Multimedia to best practice international standards, and will be sold as a commercial product to other public and private dental sectors, both in Australia and overseas. Other objectives for the project include:

- provide a template and model for other Queensland Health professional staff training requirements;
- prove that an object-based multimedia training “shell” is viable, and has potential in other areas of staff development in government; and
- test the use of the Internet as a training tool rather than simply as an information dissemination device.

In addition, ICE T Multimedia looks to the project as an opportunity to build a long-term relationship with Queensland Health, to develop its interests in niche markets for multimedia titles, and to build a base for future product development and business opportunities.

A COLLABORATIVE APPROACH

Collaboration occurs mainly in two areas in this project:

- between Queensland Health and ICE T Multimedia, relating to the development and promotion of the specific training product (ie. Infection Control in Oral Health), and arrangements for further product and market development; and
- between these two (ie. those above) and the other key people and organisations involved in the development of the ICOH content.

An arrangement between ICE T Multimedia and the Department of Public Works and

Housing, relating to the use of multimedia in training from a whole of government perspective, is another area of collaboration supporting this project.

Consultation with and the active involvement of the end-users has been critical to this project’s success. These people have provided access to key material (eg. QA Manuals, etc.) and have created new material that has also been used as content in the ICOH product.

In addition to providing valuable content, these and other key players, eg. the Australian Dental Association and the University of Queensland, have actively contributed to the development of the project as members of Reference Groups.

Other key players in the content development area include the Queensland Health audio-visual unit and a number of dental equipment and supply companies.

In terms of the collaboration between Queensland Health and ICE T Multimedia, it is clear that the collective and individual objectives are identified, appreciated and supported by both parties.

For the ICOH training product, a program which includes key milestones and review points is being followed:

- business case and specification;
- development of an electronic proof of concept (EPoC);
- development of a navigational prototype to test logic flow, etc.;
- full product development; and
- program evaluation.

The development and evolution of the electronic proof of concept is considered a critical factor in the project’s success. This process of *incremental prototyping* that is used in the project has:

- ensured that all key players are able to visualise the product and provide feedback that is based on reality;
- kept confusion about what the product is “going to look like” to a minimum;
- helped with expectations alignment; and

- created a high degree of “ownership” of the product amongst the end-users and other key stakeholders.

The commercial approach currently under negotiation for the project is that ICE T Multimedia develop this particular product on a fee-for-service basis, and that:

- Queensland Health has unlimited use of the ICOH product throughout the State; and
- ICE T Multimedia will sell the product into other markets, and use it as a base to develop further niche training products; and in return provide Queensland Health with royalty payments on these future sales.

In addition to the above arrangement with Queensland Health, ICE T Multimedia have an arrangement with the Department of Public Works and Housing that supports the development of an object-based “shell” for multimedia training products.

The intention of this approach is to build multimedia-based training products that are module based and enable the course *content* to be unbundled from the course *logic*. This design feature allows the software to be adapted for other courses, while maintaining a consistent interface and course design. The new shell also allows CD-ROM based training courses to be put on-line without re-engineering.

It is expected that this new approach will permit the development of training courses without the expertise or experience normally needed to author sophisticated multimedia. The ICOH product is being developed using this object-based platform.

It can be clearly seen that the good intersectoral collaboration that this project enjoys has been a key factor in its success.

BENEFITS AND OUTCOMES

Given the collaborative nature of this project, the benefits are complementary for the parties involved.

Queensland Health identify three main areas of benefits and outcomes for the ICOH project:

- provision of a cost-effective and innovative training solution, which achieves:
 - * social equity across a widely dispersed work force;
 - * enhancements to standards of professional practice;
 - * consistent quality and standards of course material and delivery;
 - * self-paced, competency based learning;
 - * effective support for the orientation of new staff;
 - * immediate feedback to the user;
 - * course statistics for the training provider/supervisor; and
 - * cost effective and timely course material updates;
- a combined CD-ROM and on-line course delivery and management scenario, which achieves:
 - * a personalised training approach;
 - * the building of a sense of community amongst the staff;
 - * effective distribution of updated course content;
 - * a “virtual” help desk for users;
 - * additional training options;
 - * a means for users to provide feedback to course deliverers;
 - * immediate help and feedback from experienced training supervisors irrespective of the users location;
 - * on-line, real-time audio and data tutorials with trainers; and
 - * an on-line forum for staff to comment on the course; and
- a suitable model for other training needs within Queensland Health.

Queensland Health also expect that this project will have a beneficial effect on staff motivation, morale and productivity, and lead to reductions in staff turn-over and training costs.

For ICE T Multimedia, the benefits of the project are:

- protection of the business idea via the CAMSAC program;
- the establishment of a long-term business relationship with Queensland Health;

- a reference site and credibility in the health market;
- the creation of a product base which will underpin future business; and
- an opportunity to articulate a range of ideas and design concepts.

Viewed together, it can be seen that a key aspect of this project is that a set of compatible objectives for all the players produces positive benefits and outcomes for all those involved.

KEY LESSONS & IMPLICATIONS

The key lessons derived from this project fall into two basic categories:

- organisational and business aspects; and
- technology and development processes.

The key points that relate to the organisational and business aspects are:

- executive level ownership of the project is essential;
- effective “internal selling” is critical for success;
- actively involve end-users from day one, in real ways, e.g. contribution and development of content;
- don’t make assumptions about the level of knowledge of multimedia, or about product requirements;
- the intellectual property and ideas of industry should be protected, as should that provided by government;
- make sure continuity and consistency can be achieved in all aspects;
- make sure access to key people and required media content is arranged; and
- be aware of the different roles of government, e.g. as a client, mentor and possible competitor.

And for those aspects that are related to the technology and development processes, the following are the major points:

- the electronic proof of concept is a critical element. It enables people to visualise the product and provide feedback that is based on reality. It also importantly helped to pre-sell the project to key constituents;

- don’t oversell the project and don’t make assumptions about ease of development and actual clinical practices - put a system in place to manage expectations;
- don’t approach multimedia development with an IT development paradigm - the film and media approach is better suited; and
- put a risk management strategy in place, particularly regarding access to content.

The ICOH project is an excellent example of how collaboration can create success for projects that intend to use multimedia.

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