

Delivering Senior First Aid

—

A partnership of technologies

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**Delivering Senior First Aid:
A partnership of technologies****Abstract**

First Aid training is needed right across the nation, including regional areas which may not have qualified teachers available. In 2004, the Networked Learning Project produced a learning resource for Senior First Aid. It can be studied directly from CD, or the internet. This paper describes a trial of First Aid training delivery by a blend of two e-learning modes: online study and videoconference. The trial partners were Southern Queensland Institute of TAFE and TAFE Queensland Videolinq Office, plus other participating Institutes.

Delivering Senior First Aid: A partnership of technologies

Introduction

The need to provide First Aid to casualties of accidents in workplaces is extensively defined in Australian law, and represented in over forty National Training Packages (NTPs). Where competencies in First Aid are included and defined in the training packages, extensive lists of conditions that may need to be managed usually appear in the Range Statements. Not surprisingly, many Registered Training Organisations (RTOs) conclude it wiser to outsource the training of these competencies to specialist agencies, such as St Johns Ambulance and Queensland Ambulance Service. A student coming back with a Statement of Attainment from a Course in Senior First Aid from these agencies can usually be granted competence, with overkill, in most of the 'Provide basic first aid' competencies in the training packages.

The First Aid competencies in the NTP for health are not congenial to a short but effective course in First Aid. Two units are relevant:

- HLTFA1A Apply basic First Aid, and
- HLTFA2A Apply advanced First Aid

Neither one nor both constitutes a short and effective course, going beyond the basic fundamentals, yet fitting in a weekend course or equivalent. The first is too brief and basic, while the second is too substantial for a short training course.

The Queensland Ambulance Service resolved this anomaly by accrediting a course of more suitable length, 16 hours, called *30117QLD Course in Senior First Aid*. It is typically delivered to the public face-to-face over a weekend or a series of evenings; or in the workplace.

TAFE Queensland can deliver this course through its network of RTOs; several institutes are registered to deliver it. Queensland Ambulance is understandably assiduous about the quality of delivery of its course, and sometimes enters into arrangements to provide the resources or actually deliver the training on behalf of registered institutes. However, if TAFE institutes are registered to deliver the course and have the relevant resources, they are entitled under the AQTF to deliver it independently.

Until now, the delivery of First Aid training to regional locations has typically required either for the students to travel to a larger centre for the training, or for an instructor to travel to a regional location where a class could assemble for a face-to-face (F2F) class, with attendant problems of time, travel and accommodation expense.

This paper describes a First Aid training program in which two electronic delivery modes were blended to overcome the need for teacher and students all to be present in the same room, and for the training to reach a number of small groups of students who were geographically isolated from their teacher.

The online course and its delivery plan

Under the Networked Learning Project of 2004-5, I was given to manage the creation

an on-line course in Senior First Aid for TAFE Queensland. The progress of that project, with due credit to the team of writers who made it a success, has been written up and talked about at other conferences, so I won't repeat that here. The outcome was a CD-based learning resource containing the theory component of most Senior First Aid courses, but fully matched to the course *30117QLD Course in Senior First Aid*.

The CD could be studied at home or in the workplace, and contained a variety of learning activities to help consolidate the knowledge that it would provide. Being designed entirely in HTML, it was also made accessible on line through the Internet. In addition, four on-line assessments of the theory to be learnt were created and placed on the Web.

Obviously, the course would require a face-to-face component to allow the training of practical skills (e.g. bandaging and resuscitation), but the new resource would allow some learners to study the theory aspects alone and independently. In practice, this would mean less travel and/or accommodation expenses to the students.

The following table shows the potential advantages provided by the on-line course.

Program type	Old arrangements	Blended/on-line arrangements
Weekend course (F2F = face to face)	Two days of 8 hours F2F training, covering theory, practical and assessment.	Eight hours of CD/online learning, to student's own pace and timetable, with on-line access to learning support; followed by one day of F2F practical training & assessment.
Observation:	Students went home at night, or took overnight accommodation if they'd come from a distance.	Students might need to travel a distance to participate, but might not need accommodation for the one day of F2F training.
Evening course	Eight 2-hour sessions of F2F training, of theory, practical and assessment.	Eight hours of CD/online learning, to student's own pace and timetable, with on-line access to learning support; followed by or intermixed with attendance at four 2-hour sessions practical training & assessment.
Observation:	Travel expense 4x greater than the weekend course. Students from a considerable distance probably couldn't attend.	Less travel than the F2F series of evening lessons, but more than for the week-end course.

Advantages/disadvantages of Blended Delivery mode

Advantages

The eyes of managers are likely to sparkle when they observe that the F2F component of teacher salary in blended mode is apparently reduced by 50%, but this is more true in appearance than practice. Online students still need teacher support, now known as *facilitation*. Just how much they need, according to world-wide research, depends on so many factors that it simply can not be determined in advance. For

example, if the learning resource is really good (clear, effective and self-contained) then perhaps not much facilitation may be required. If on the other hand the students have IT or language literacy problems, then quite a lot of support may be needed.

In setting up any delivery program using the CD resource, I have always insisted that teacher participation in the facilitation role must also be costed in, to an extent not less than 50% of the F2F time that would otherwise have been spent teaching the theory. This is at best a spongy figure based on the best available advice about a starting point, and likely to need variation for different client groups, but at least it establishes a minimum. In practice it means that instead of teaching sixteen hours F2F, the facilitator may teach eight hours of practical and provide four hours of online facilitation, totalling twelve, and permitting a saving of four hours of teacher salary. In my experience, it would be unrealistic to try to save more facilitator salaried time, because even the single on-line mode shown in the table requires an increased level of facilitator-generated administrative work, such as chasing up silent on-line students. (The dual on-line mode is the main topic of this paper, and will be described in detail shortly.)

So, in the blended mode we have advantages of convenience accruing to the students, as shown in the table above, and advantages to managers interested minimising the cost of the delivery arrangements.

Disadvantages

Enrolled learners may be unable, for whatever reason, to read the text of the on-line resource, or 'reading to learn' may be so contrary to their preferred mode of learning that they just don't get into it. Similarly, technophobes may never get to the point of discovering how easy it is to click one's way through the resource. In any of these cases, the on-line course is likely to be ineffective, these students being likely to fare much better in a sixteen-hour F2F course.

Videoconference delivery

Evaluating the benefits of the on-line resource, I had to admit that the CD-based course provided only a marginal improvement to the efficiency of the fully F2F course, and then only to those students with the required literacies. Students still had to physically attend a class, at a cost of travel if they were distant, and there are doubtless many who don't enrol at all because the distance is too great. It was a situation in which videoconference teaching through the Videolinq network was just begging to be tried.

In the right circumstances, videoconference teaching can be a highly effective and flexible method of training delivery. People desiring to enrol in a course may number only two or three at their location, insufficient for a class to be formed. Aggregating several such places can create a class, and meet an otherwise unserviceable need. Videoconference teaching makes this possible.

Could Senior First Aid be delivered by this medium? It would involve delivering the entire *practical component* of the Senior First Aid training and assessment to students in a network of videoconference rooms. It would require, among other things, the acquisition, delivery, security and return of valuable learning resources such as CPR manikins to the training sites. From the teacher's point of view, there would be no less teaching work to do, but more administrative work to initiate and follow through.

All of this would have to be worked through, but the fundamental question was, can Senior First Aid be effectively taught in a **dual-online environment**? That is, where:

- the theory was being studied from the CD or Web, with on-line facilitation from the teacher (email, discussion, chat, telephone); **and**
- the practical was being taught and assessed on line in a videoconference environment.

It seemed possible, and it seemed worth a try.

A partnership forged

Although we might have explored delivering Senior First Aid by Videolinq within our own institute (SQIT), the CD learning resource is actually owned by TAFE Queensland, and it was seen as desirable to bring it to the attention of the other institutes. Not only to publicise it, but to demonstrate, if we could, that it offered a number of new viable approaches to the delivery of training in Senior First Aid.

Paul Crosisca, Videolinq Manager, visited SQIT in Toowoomba in March 2006 and gave enthusiastic support to a delivery trial using Videolinq. A collaborative trial was planned, in which:

- Videolinq Office would publicise and support the trial across the network, and would fund a mass-production run of the CD resource;
- SQIT would provide a teacher and a manager of the trial;
- Students would be provided by other institutes, initially by invitation, and supposing that the students may be staff members of the institutes.

Within SQIT, the First Aid teacher nominated to do the delivery was Ray Bray, who had also had videoconference teaching training. The trial was managed by Graham Anderson, a role which mainly involved assisting Ray with all the necessary administrative arrangements, but also included facilitation support to the online students with regard to answering enquiries about administrative matters and assessment.

The partnership between SQIT and the Videolinq Office seems at first so natural that it hardly requires explanation. SQIT had the product, and Videolinq had the network to deliver the product to far-flung sites. But there was more to it than that. The CD- or web-based learning resource is the intellectual property of TAFE Queensland. As such it is available to all Institutes, but the resource and the e-learning opportunity it represented were not being taken up across the State. Having created the resource, SQIT was under no obligation to market it, at Institute expense, across the State; even though it seemed to warrant marketing. What was needed was the support of a branch of TAFE Queensland which had a State-wide area of responsibility, a capacity to contribute financially, and a willingness to support and promote the delivery of Senior First Aid by TAFE Queensland via the dual on-line mode. Videolinq stepped willingly into this role. The fact that Videolinq was able to provide exactly *what was needed*, at the time and to the extent that it was needed, in terms of both leadership and the necessary resource, was what made the partnership successful.

Setting up the program

The program we devised is shown in Appendix A. It commences with a very necessary introductory session of one hour, in which we went through the following preliminaries:

- A welcome by Paul Crosisca of Videolinq Office, thanking all for their contribution to the trial.
- Ice-breaking: getting to know each other.

- Explanations of the scope of the course and delivery methods.
- How to use the videoconference facilities; use of the remote control; setting the camera to enable the teacher to view the practical activities such as CPR done on the floor.
- Expectations of learners regarding doing the theory study (the relevant chapters) in advance of the practical.
- Reminding what they would need to bring when (also advised by email).

In the single on-line scenario, study of the theory from the online resource precedes the F2F practical session. As we adapted the program to videoconference delivery, it became clear that alternating private study (including on-line theory assessment) with the videoconference sessions would have a number of benefits:

- Students would (should) have completed the theory on cardio-pulmonary resuscitation (CPR), and the on-line assessment before the first Videolinq practical session on CPR.
- The teacher, by tracking assessments received, would be aware of any student who had not progressed to the end of Section 6 by the time of the first content-related videoconference (or perhaps had not started at all).
- The teacher would be aware of the outcomes of the first assessment and could identify (a) students having difficulty and (b) content causing difficulty.
- Students would have the chance to pose 'live' questions to the teacher in the videoconference while it were still fresh in their minds. (They could of course also send questions by email to the facilitators at any time.)
- Having the practical session on CPR immediately following the study of the theory on CPR, it was possible to include students whose only reason for participation was to re-certify their skills in CPR. In this case they enrol in the lesser *30114QLD Course in CPR*, but attend only the first sessions of the course with the students of *30117QLD Course in Senior First Aid*. This is cost-efficient, if it does not cause the first sessions to have an unmanageable number of students.

All systems go

For the sake of anyone wishing to undertake a similar delivery program, summarised here are the administrative procedures we dealt with at this point to set the program in motion:

- Create copies of the learning resource CD. This involved updating the most recent version and sending it away for the multiple-copy run. Production took about three weeks. Cost of the individual copies was \$1.09 each.
- Create or identify the relevant Delivery Package
- Identify the students and get them enrolled (more below)
- Negotiate the dates/times of the Videolinq sessions to meet student needs and VL room availability. This is best done well in advance!
- Book the Videolinq sites.
- Issue the students with the CD, plus welcome, program and facilitation information.
- Inform the students what they would need to bring, including (in this case) negotiating with First Aid teaching staff in their own institutes to obtain CPR manikins for the practical training in CPR.

With that, we were ready to go.

The students involved

Students nominated themselves for the course, with the support of their institutes, as follows:

Institute	Campus	Number of students
Barrier Reef	Pimlico	2
Wide Bay	Maryborough	7
	Hervey Bay	2
	Bundaberg	1
Southern Queensland	Toowoomba	3
	Warwick	2

Not all of these fronted and a couple were rarely seen, but eleven people completed the course. A significant feature of this enrolment pattern was that, with one person withdrawing at Pimlico campus, we had two sites with only one student (Pimlico and Bundaberg). This made it particularly difficult for the single students at those sites to do practical activities, especially bandaging. Bandages, splints, and slings are rather difficult to apply to oneself. Both of these students had to make use of a helper who kindly agreed to be available on call and to be the casualty needing bandaging.

Facilitation arrangements

The students were told that they had two facilitators. They should contact Ray for any enquiries about First Aid content, but Graham for administrative enquiries. They were provided with our email addresses and our work telephone numbers.

As Graham was responsible for the learning resource, and had created the multiple-choice assessments with the help of his writers, he also fielded all enquiries and requests for feedback on the assessments.

The Videolinq sessions

Ray was a bit out of practice with teaching by videoconference, but soon found his feet again. The visual nature of the videoconferencing environment made it possible for all the practical activities to be demonstrated quite effectively.

When it came to seeing the students doing their own demonstrations, it wasn't all plain sailing. One thing that needed practice was where students needed to point their camera towards their practical area, usually an open space on the floor, and then to be in that space while they practised and demonstrated their results to Ray. Quite a few screens showed only that the students had moved out of the practice area. This was remedied with regular reminders until they got the hang of it.

The relatively new Videolinq feature called 'Continuous Presence' (otherwise known as 'Brady Bunch view') was very useful. It divides the facilitator's screen into a number of boxes, each containing image from one of the distant sites. Having demonstrated a skill and set the students to practise it, Ray could then watch all the sites simultaneously, offering guidance to individuals as necessary and noting competent demonstrations for assessment purposes.

The on-line assessments

The four on-line assessments, designed to measure student knowledge of the theory content, were multiple-choice questions in which students click check-boxes or radio buttons. They contained 25, 50, 48 and 33 questions respectively, sufficient to test (if briefly) every aspect of the performance criteria. Each question offered five or 6 choices. The instruction could be 'Select one', or 'Select all that apply'. The underlying programming ensured that anyone who tried simply to select *all* options fared rather badly. In the 'Select all that apply' questions, a wrong answer forgone was scored as a correct answer.

The trial revealed some significant weaknesses in the on-line assessments. Although they had been assembled with a great deal of care, it became clear in the trial that some questions were about matters barely mentioned in the text (if at all), and some questions were found to recur in later assessments where they certainly didn't belong. The trial was valuable for identifying these problems, which can be fixed for future delivery operations.

Evaluations

Nine evaluation/feedback forms were received after the trial. Their main results are summarised here:

Number of students who responded to questions in the following 5 categories:				
1 – Not at all	2 – Partly	3 – Mostly	4 – Very	5 – Extremely
Overall, how satisfied were you with the facilities provided?				
		5	4	
How satisfied were you with the materials provided?				
		5	3	
How satisfied were you with the presentation of the course?				
		3	6	
Would you recommend this short course to others?				
Yes: 7		No:		

The following is a summary of general comments made on the evaluation forms:

- 1 Made in similar words by three students with prior First Aid training: "I believe this format is suited to requalification and refresher training but not to training new students without previous First Aid experience or qualifications."
- 2 "Generally, I was surprised how closely this resembled other Senior First Aid courses I have completed."
- 3 "This was the first First Aid course I have attended. ... I feel I learnt from it, which was the intent."
- 4 "I was surprised by the effectiveness of the practical assessment."
- 5 Considerable constructive feedback about
 - Weaknesses in the on-line assessments, as mentioned earlier.
 - Ways to make better use of the on-line videoconference time.

- The need for at least two students at every site.

Not all comments were in mutual agreement, as might be expected in any diverse group. While some felt strongly that the dual on-line medium was unsuitable for raw beginners, others found it quite satisfactory.

Although there was general satisfaction, there were also indicators that better use might have been made of the videoconference time—perhaps a tightening of lesson structure and time management. All feedback received was constructive and thoughtful and was accepted gratefully. The fixes indicated can easily be done, to the end of making the course as good as it can be. The Videolinq medium itself received little criticism apart from its characteristic weaknesses, such as delays in voice transfer and vision switching.

Conclusion

This trial was the first of its kind in Australia, as far as we know, in which facilitated electronic study of First Aid was blended with videoconferencing as a substitute for the classic classroom. It was enough of a success to warrant continuing the method, with a process of continuous improvement in place. There remains a doubt about the suitability of the course for raw beginners, unresolved in this trial because only two such persons participated. A further delivery of the course in which the students have not previously studied First Aid, and with a non-participating First Aid assessor observing, would be a suitable way to further confirm the effectiveness of the method and moderate the assessment process in comparison with other classes and delivery strategies.

Epilogue

After the completion of this course, new procedures for CPR as recommended by the Australian Resuscitation Council came into effect. On the beneficial side, these greatly simplify the guidelines about when and how to undertake CPR. Consequently teaching CPR will become easier and will take less time. In the blended CD/Videolinq course, this will create more time for teaching the practical skills more thoroughly. On the unfortunate side, the changes render the CD learning resource obsolescent, as the sections dealing with CPR now need to be systematically revised. That will take time and effort, and should really be done as a funded project. Holders of purse-strings are encouraged to make an offer in this regard.

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Appendix A — the program

Senior First Aid by blended delivery

Hosted by Southern Queensland Institute of TAFE and by Videolinq Office.

Program of Senior First Aid training

for delivery by (a) study of the theory from a CD and on-line, and (b) practical training and assessment by videoconference.

Week 1

1-hour videoconference for introductions and explanation of the course and how it will be undertaken.

Two hours of private study of the CD. Target: completion to Section 6

Week 2

On-line assessment 1 for Sections 1-6

Private study of the CD. Target: Sections 7-12

Week 3

On-line assessment 2 for Sections 7-12

Video conference practical lesson of 2 hours: CPR, EAR, initial bandaging

Week 4

Private study of the CD. Target: Sections 13-18

Week 5

On-line assessment 3 for Sections 13-18

Video conference practical lesson of 2 hours: bandaging, fractures, spine, helmets

Week 6

Private study of the CD. Target: Sections 19-24

On-line assessment 4 for Sections 19-24

Week 7

Video conference practical lesson of 2 hours: Acute illness, completion of anything not covered and completion of practical assessments