

E-LEARNING IN THE WESTERN AUSTRALIAN SCHOOLS SECTOR: LESSONS LEARNT

Jean Macnish
Curtin University of Technology, Perth
Western Australia
jean.macnish@elearn.wa.edu.au

Dr Sue Trinidad
Hong Kong University
Hong Kong
trinidas@hkucc.hku.hk

ABSTRACT

Both the VET and Schools sectors are currently investing significant resources to promote more flexible approaches to teaching and learning. ANTA Flexible Learning Toolboxes (<http://www.flexiblelearning.net.au/toolbox>) and the emergence of the Learning Federation (<http://www.thelearningfederation.edu.au>) are evidence that national initiatives are now seeking to use electronic and online mediums to promote flexibility. Yet for all the resources being channelled into the development of e-learning resources and learning objects, the uptake has been slow. This may be because there is limited understanding of how to implement e-learning solutions in both the VET and schools sectors. This paper reports on two innovative e-learning and assessment projects undertaken in the Western Australia VET in Schools arena in 2002. Both projects focused on retail training. The first ran at Forrestfield Senior High School between April and June; the second at Sevenoaks Senior College in August and September 2002. These projects have been identified nationally as best practice exemplars in the Practitioner Guide to Online Assessment that was commissioned by TAFE frontiers in Victoria. This paper shares the results of these implementation projects in perhaps one of the most difficult but rewarding educational arenas: VET in Schools.

BACKGROUND

Development of online learning initiatives in Australian Schools

In *Backing Australia's Ability: Innovation Action Plan* announced by the Prime Minister in January 2002, \$68.2 million over five years was committed to the Schools Online Content Curriculum Initiative (on an understanding that states and territories met half the financial commitment). Funding covers the period 2001-2006, beginning in the 2001-2002 financial year with \$9.5 million and building to around \$14 million in later years. The commitment was made on the premise that:

While investment by all schooling systems in equipment and connectivity has paved the way for change, it is the availability of quality online content that will begin to improve learning.

(Learning Federation Schools Online Curriculum Content Initiative, 2001).

The Western Australian Strategy

Every Australian state has committed millions of dollars to connecting schools to the Internet, increasing technology ratios in Australian schools into the 21st century and helping teachers use the technology through professional development (see Trinidad, 1998 for an Australian state by state account). Western Australia through the vision of the Department of Education's [e2c](#) (*Education to Community*) initiative plans to deliver:

A world class Education System, bringing the Western Australian Education Community together, online.

This vision is designed to facilitate the move of the education community into the new information and knowledge age, in line with the Western Australian Government vision for public school education. The strategic outcomes of *e2c* support four major themes:

- eLearning
- eBusiness
- Enabling Infrastructure
- Access to Information.

Increased spending on Information & Communications Technology (ICT) in schools and educational institutions does not necessarily guarantee improved teaching and learning environments or improved student outcomes (Centre for Research on Information Technology and Organisations, 1999; White, 1999). Education has a poor history of successfully meeting the challenges of major shifts in technology (Trinidad, 1998) and there has been limited research into the long term implementation and educational benefits of technology-rich online learning environments.

Objective/Purpose

The purpose of this paper is to discuss the implementation of a blended learning approach for one unit of competency, *Sell Products and Services*, in the Certificate II Retail in two differing school environments in Western Australian: Forrestfield Senior High School and Sevenoaks Senior College.

Blended learning is defined here as:

an approach that embraces the best of both on- and off-line learning. A balance between engaging online content and collaborative environments, and classroom-based facilitation and learner support strategies.

The Schools

Both Forrestfield Senior High School and Sevenoaks Senior College are located in low socio economic areas in the south east metropolitan corridor of Perth, Western Australia. Forrestfield is a senior high school that as at August 2002 catered for 897 students from Years 8 – 12. Sevenoaks is a senior secondary college that as at August 2002 catered for 407 students in Year 11 and 12.

Forrestfield Senior High School has an access ratio to computers of 1:5. Sevenoaks Senior College opened in 2001 at a cost of approximately \$8.3 million with extensive state of the art ICT infrastructure and an access ratio to computers of 1:2.

Retail Content

The content that was used for the online retail unit was drawn from the Australian National Training Authority (ANTA) Certificate II Retail Toolbox. The Retail Toolbox, a web-based collection of resources, includes learning strategies and supporting material that provides a stable and robust online learning environment. This toolbox was developed within the National Flexible Learning Toolbox initiative, which is increasingly regarded as producing high quality learning resources for online delivery. The Retail Toolbox was identified as having the greatest use across Registered Training Organisations in Australia, in a recent survey of the Toolbox Champions network, a nationally chosen support network whose role is to assist in the implementation of Flexible Learning Toolboxes. (A special feature titled: 'Flexible Learning Toolboxes: Champions Share Their Views on Implementation' is included in the December 2002 edition of *The Knowledge Tree: An E-Journal of Flexible Learning in VET @ <http://www.flexiblelearning.net.au/leaders>*).

The following description from the developers' guidelines for ANTA Toolboxes Series 5 (<http://www.flexiblelearning.net.au/toolbox/toolbox5/workshop/characteristics.doc>) highlights the Toolbox learning design:

A fundamental requirement of Toolbox resources is the need to exhibit effective teaching and learning approaches. To support this requirement, proponents need to demonstrate their capacity to develop resources with the following features:

- *a firm basis in an educational model which recognises an active, constructive role for learners;*
- *learning activities which engage the learner in active processing of the subject matter rather than mere knowledge acquisition;*
- *learning settings and tasks that encourage meaningful online communication and interaction (between learners as well as between teachers and learners);*
- *content resources which are visually attractive, motivating to use and organised logically for ease of navigation; and*
- *representations of authentic and real life settings in preference to textual descriptions.*

METHODS, TECHNIQUES OR MODES OF ENQUIRY

The interpretative framework used in this study involved a pre-entry questionnaire, a collaborative online environment, interviews with students and teachers, and an exit questionnaire. The researcher acted as co-facilitator of the unit in both schools and was present during the beginning, middle and conclusion of the course run at Forrestfield Senior High School and present during the entire course at Sevenoaks Senior College. Field notes, videotapes, informal discussions recorded afterwards in a journal, and online collaboration and curriculum have also been logged. This qualitative data provided an empathetic understanding of the classroom and online environment.

CASE STUDIES

FORRESTFIELD SENIOR HIGH SCHOOL

Strategic Direction

Forrestfield Senior High School continues working toward providing a sound infrastructure within the school, focusing on developing both the provision of facilities within the computing department and networking to learning areas. During 2002 a greater emphasis was placed on professional development for staff, software licensing, management issues and the integration of ICT into the curriculum.

Students Selected

Students were enrolled as a whole class, that is the entire Year 11 VET students. Students were not pre-selected, nor were they asked if they had an interest in the retail environment or in online studies. Classes were conducted during a timetabled class period.

Infrastructure

At the time of the case study, Forrestfield Senior High School had limited ICT facilities, similar to many state high schools across Australia. The limited ICT facilities created difficulty for the teacher in accessing computer classes for the implementation of the retail unit and the unit was conducted in four different computer classrooms with varying facilities – one classroom was such that half the students had to sit in an adjacent general classroom. The students did not have

additional access to computers during school hours and many of the students did not have access to computers at home.

Professional Support

Two experienced facilitators and developers of online learning from Elearn.WA (one, a national Flexible Learning Leader and the other undertaking Phd studies in online learning) provided an introductory session to both students and staff of the retail unit on Monday, 15 April 2002. Three subsequent sessions were conducted on 16 April, 16 May and 11 June 2002. Assistance was also available on call.

Additionally, an experienced facilitator in the retail industry supported the students throughout the program and assisted in the assessment process.

Both the students and the teacher were new to the online environment and experienced some difficulty adapting to the online environment. The teacher felt that her IT skills were quite limited with “just enough to get by”. At the exit interview, the teacher felt that she had learned how to integrate online content in the traditional classroom and, although was still a little hesitant, felt confident that implementation would be improved next time.

Duration

The unit *Sell Products and Services* is nominally 18 hours. It was intended that the unit would be run over one month, however, this needed to be modified because the students were a little behind in their study plan and there was a school holiday. This slight delay was further compounded by the school ball. As a result, the implementation took two months. The interruptions may have caused some of the borderline students to lose motivation.

SEVENOAKS SENIOR COLLEGE

Strategic Direction

Working within a flexible timetable along with the application of state of the art ICT in the delivery and management of education programs, the model for Sevenoaks Senior College has evolved out of the post-compulsory review recommendations driven by educational reform, outcomes-based education and the increased use of technology in society (Wood & Trinidad, 2002). Sevenoaks Senior College has all programs available to students online, incorporates vocational learning and enterprise outcomes, uses information technology and is moving towards meeting individual learning rates and styles.

An online retail course was seen as a unit of learning that would enhance the student’s vocational goals as well as complementing their Structured Workplace Learning (SWL) experience.

Students Selected

Students were Year 12, pre-selected on the basis of being likely to be “interested in participating”. The students were advised that undertaking the unit would be mostly in their own time and was voluntary. All students at the school are comfortable with studying in an ICT rich environment.

Initially the class consisted of 5 Year 12 students. As a result of the students’ enthusiastic response to the online retail course the class after the first recess immediately grew to 7. An additional student who had been sick during the first week joined the class in the second week – along with another student (bringing the total to 9). The flexible nature of the course enabled students to commence at their own time, study when and where they wanted to (eg at school in their free periods or at home) and at their own pace. All students completed all work assignments on time.

Two students completed the course early with all activities having been undertaken. Eight of the nine students successfully completed the course (the ninth student attended all scheduled non compulsory classes and was highly motivated but has some learning difficulties). It is interesting to note that on a pupil free day, 8 of the 9 students attended a scheduled non compulsory retail class from 9 to 12 pm (with one student being sick).

Infrastructure

The students use a WebCT environment and can access all programs, including course notes and materials, online. The retail unit was conducted in the same computing class throughout the course.

Professional Support

The Program Co-ordinator Enterprise and Vocational Studies and the Structured Workplace Learning Co-ordinator had two professional development sessions with an experienced online facilitator from Elearn.WA (the researcher) prior to commencing the implementation of the online retail unit. The project to implement the retail unit and introduce the Program Co-ordinator Enterprise and Vocational Studies to the online environment was supported by the Principal, the Program Co-ordinator Teaching and Learning, and the Structured Workplace Learning Co-ordinator. The main teaching area of the Program Co-ordinator Enterprise and Vocational Studies is Home Economics and at the entry interview considered herself as having: “*minimal to developing IT skills*”. At the exit interview, the Co-ordinator felt that she had developed more IT skills, particularly in the area of online communication and the integration of on- and off-line content.

Duration

The course was run over a one month period commencing at a time deliberately chosen to ensure that it was completed before students went on SWL or had school holidays.

FINDINGS

Online Collaboration Tool

Self-authenticating bulletin board software (Phorum) was used at both Forrestfield Senior High School and Sevenoaks Senior College. The software is built on the premise that learners have an email address. This was the case at Sevenoaks Senior College. However, at Forrestfield Senior High School, many learners were required to set up an email account prior to the commencement of the unit. Whilst learners found this a straightforward task, the technical infrastructure was not conducive to being on the Internet and many students were frustrated with the time that it took to simply obtain a Hotmail or Yahoo email account. Some learners did not realise the importance of maintaining a stable and correct email address for the purposes of the bulletin board. When some students then forgot their email address, they were shut out of the bulletin board. A small cohort of learners at Forrestfield created new email accounts and tried to self-authenticate into the bulletin board a second time. This was not successful because their identity already existed. Needless to say, technical issues like this were enough to de-motivate students, some of whom were already at educational risk.

Forrestfield Senior High School

Students

Of the 17 students who enrolled, 8 students withdrew, 5 students did not complete all activities (although two were given further opportunity) and 4 successfully completed. The main reasons cited for wishing to withdraw included:

- No interest in studying retail;
- Already knew the retail content; and
- No interest in studying online.

It is difficult to comment on whether the students really had no interest in studying online because they identified the first two reasons for withdrawal, or because of the difficulties they experienced in studying online, or whether they had simply ticked all three boxes. The group varied from self-motivated, independent and competent learners to those who needed constant guidance together with a strong framework in place. There was a fairly large number of “students at educational risk” and the teacher’s experience of the same students in other classes was that many “find it difficult to follow written instructions and constantly need assistance to stay on task”.

The students were not used to the online environment (other than perhaps in social “chat”) and subsequent to the very close supervision of the introductory workshop (and coverage of netiquette) there were inappropriate postings. The netiquette issue was dealt with immediately and inappropriate postings deleted.

Although there were a couple of workshops on the bulletin board, some students had difficulty following the bulletin board. The frustration of some students who were not used to the online medium was evident in the bulletin board.

Students in the Forrestfield Senior High School case study may have been disadvantaged by insufficient infrastructure, some student inexperience with technology, some disruptive students, and program interruptions.

However, feedback from those students who successfully completed the unit included:

The bulletin board, that was really good - you knew what you were up to, if anybody wanted to tell you something, like the online facilitator or yourself (co-facilitator/researcher), you were there.

I liked that we had an online facilitator so that they could check our work, and give us feedback.

I like that you could just work at your own pace, so some people could be behind, or you could be in front, and you could just work whenever you want to, and actually having a computer to work with instead of the teacher.

Teacher Feedback on the Retail Course

The following comments highlight the experience of the teacher implementing the retail course at Forrestfield Senior High School:

I think it was a good experience ran in tandem with what they were doing in the workplace – I don’t think some of the kids saw that though.

I guessed surely I can do this; why should it beat me? Dealing with the physical nature of the rooming with 4 periods with different computers and one period with only enough computers for half the class was really tricky. The sheer physical nature of the computers was hard.

Peer support/mentoring would be good – nobody else taught retail at the school whereas in other subject areas, two teachers who work together can bounce ideas. I felt pretty much on my own.

A pre-inservice for teaching the retail unit online would have been ideal - having a chance to go through the program to know what the students were doing, ideally planning well ahead of lessons. I was teaching something I was really unaware of, I took it home and had a look but it was tricky.

I thought some of the kids would have enjoyed it more rather than teachers going down on them and bugging them, they were interacting with the computers while I was there to help them when it was needed - great.

Next year, I'd like to run the unit in 1st semester so that students can get the benefit from the course in their Structured Workplace Learning. Used appropriately with more classroom activity, I think blended learning is the way to go.

Enjoyed it – liked the independence of the online learning.

I found it interesting and great – content was fabulous, mind boggling that sort of learning – really innovative.

From an observer's perspective, it was obviously very hard for the part-time teacher to manage everything with a very tight existing timetable, limited IT skills and difficulty in accessing computer rooms. Nevertheless, the teacher is still enthusiastic about the online unit and its use.

Sevenoaks Senior College

Students

At Sevenoaks Senior College, the students' enthusiastic and positive reaction to the online unit was evident in all bulletin board postings. All 261 postings were positive. The following extract of the bulletin board discussion, activity 4 summary of the *Sell Products and Services* unit, highlights that the students enjoyed the activity and were enthusiastic:

Author: Helen (203.153.231.---)

Date: 08-12-02 10:02

Hi there!

So you have finished activity 4. Well done.

Reply to this message with your comments about activity 4 - what did you like or not like?

Remember features tell, benefit sell!!

See you in activity 5.

Mrs Maitland

[Reply To This Message](#)

Re: Activity 4 Summary

Author: Jean (203.153.231.---)

Date: 08-12-02 10:46

This activity was a bit harder that the others otherwise it was good I cant really remember what I

got on the sales challenge

[Reply To This Message](#)

Re: Activity 4 Summary

Author: [Matt](#) (203.153.231.---)

Date: 08-12-02 11:21

I am enjoying this course the activities are fun
i am finding the discussion forum and the course structure hard to follow because i am getting lost
in the distinction between the activities and the sales challenge
the course being online is good.

[Reply To This Message](#)

Re: Activity 4 Summary

Author: Paul (203.153.231.---)

Date: 08-12-02 11:51

What i'm enjoying is the activities and it's all good.

[Reply To This Message](#)

Re: Activity 4 Summary

Author: Helen (---.mega.tmns.net.au)

Date: 08-14-02 21:32

Matt,
I will chat to you in class about the different activities.
Mrs Maitland

[Reply To This Message](#)

Re: Activity 4 Summary

Author: Rebecca (203.153.231.---)

Date: 08-15-02 11:17

I am finding this course very good to learn about

[Reply To This Message](#)

Re: Activity 4 Summary

Author: shereen (203.153.231.---)

Date: 08-19-02 09:41

Well I thought this activity focused mainly on the customers needs an how to handle them this
course is very good as each activity is something different that you can learn about.

Teacher Feedback on the Retail Course

The following comments highlight the reaction of two teachers to the retail course at Sevenoaks Senior College.

From the Program Co-ordinator Enterprise and Vocational Studies co-facilitating the implementation:

“Liked the instantaneous feedback and found out how you went. Related as either a customer or retail assistant to many of the case studies – quite realistic. It kept my interest and aroused my curiosity – I wanted to know where I went wrong.”

From another teacher involved in the project, the Structured Workplace Learning Co-ordinator:

“Apprehensive because I wasn’t quite sure from my skill level how I would be able to use the online curriculum. Looking forward to using it because I want to know how to use the online medium so that I can integrate and encourage others to use toolboxes with their curriculum areas.”

At the conclusion of the retail implementation, some teacher comments included:

Didn’t expect the class to increase and in fact expected one or two to drop out. The opportunity for the students to excel at their own pace has reflected in them excelling.

The unit is easy to navigate around with a balance of activities/checklists that reinforce student learning.

The Principal was supportive in giving the OK to run with the project and has maintained a keen interest with project updates presented at senior management meetings and informal discussions with the vice principal.

Learned a lot to date, how to use a bulletin board, never used one before, never really been engaged with the online curriculum in that way either. For me it was a completely different way of working with students. Initially thought it would be impersonal but as a facilitator I found I was still working with the students at a personal level.

Some answers lacked detail and the application of knowledge. Some have done the bare minimum - this could be in part due to their literacy skills and I could have drawn them back.

The online retail unit really worked but it does need the personal interaction as well , it would be a pity if the online learning took over.

It was great to see that the co-facilitator had marked all the assignments posted to the bulletin board, realised that some assignments lacked detail and then thought about how to communicate and engage the students from an online perspective to draw out more detail. It should be remembered that this is the first online facilitation undertaken by the teacher and the postings gradually demonstrated a clear online understanding.

From an observer’s perspective, it was obviously very hard for the co-facilitator to manage everything with a very tight existing timetable, additional work responsibilities and an unexpected severe sickness in her immediate family.

Comparison with the e-magine Online Campus (Tasmania)

The experiences of Forrestfield Senior High School and Sevenoaks Senior College in some ways may be considered similar to that of the experiences of e-magine Online Campus, Tasmania. In e-magine's first year of implementation, the online paradigm suited some students but not others, particularly those who required very close support (Chalmers, 2002). Another critical factor that emerged in the e-magine implementation was support for online teachers in the form of professional development. Chalmers (2002) states that:

“While the characteristics of effective and rich teaching and learning online may be similar to those applying in the regular classroom, online teaching and learning is a new paradigm and both teachers and students need to develop new skills.”

(Chalmers, 2002, p7)

The presence of computers in classrooms does not suggest that they are more than ancillary to the pedagogy of traditional instruction (Mann 2002). The introduction of the retail unit online at Forrestfield Senior High School, and, in particular, Sevenoaks Senior College highlights that the online medium can enrich the classroom rather than just using ICT as an information tool.

Assessment

The assessment of the online retail course was conducted in a very similar fashion in each of the two sites.

The assessment process rigorously followed the Australian Quality Training Framework (AQTF) to ensure validity, reliability, fairness and flexibility as well as sufficiency, currency and authenticity of evidence. The assessment process used at the two sites for the unit *Sell Products and Services* was selected by a TAFE frontiers commissioned project titled ‘Practitioner Guide to Online Assessment’ (available <http://www.tafefrontiers.com.au/static/oav3/challenge.htm>) as exhibiting good practice in online assessment. (TAFE frontiers is the peak body for registered training organisations within the Victorian State Training Service, including public and private providers.) The online assessment project included six national case studies and was designed as a professional development resource for VET practitioners.

At the commencement of training each student was provided with an Evidence Plan and a Unit Plan. The Evidence Plan detailed a range of evidence that was going to be collected. The aim was to ensure that competency is determined through valid and reliable assessment processes that meet the requirements of the AQTF, whilst at the same time giving students choices through negotiation of assessment tasks that are responsive to individual learning styles.

Many students have part time employment in the retail industry and it was therefore considered reasonable to include a broader variety of assessment tools. Assessment tools from which students select, to ensure several forms of evidence are provided, include:

- workplace observation (off the job supervisor)
- third party checklist (on the job supervisor)
- video-taped role play simulation
- discussion forum records
- evidence of assessment activities and discussion from the online learning program, such as bulletin board, checklists and short answers
- Structured Workplace Competency Book
- self assessment checklist, detailing the type of evidence the student has collected.

The Evidence Plan ensures that learners have a clear understanding of the following:

- the assessment process, including when assessment will occur, how it will occur and where it will occur
- the criteria against which students will be assessed
- the assessment appeal process
- the rights and responsibilities of the student, together with the identification of any special needs that should be considered in the assessment process.

The Evidence Plan is supported by an Assessment Plan which gives a description of the on-going and final assessment tasks. The ongoing tasks are mapped to the elements of the unit of competency and integrate skills and knowledge development with the assessment process. The videotaped role-play covers the whole unit of competency.

The video evidence is based on a simulation exercise in which students 'sell' a mobile telephone to a 'customer'. One week prior to the video assessment, students receive information about the scenario they will be participating in. This includes:

- Product knowledge information
- An outline of the scenario
- A summary of what they will be assessed on, mapped to the unit of competency

Prior to the actual assessment, students have the opportunity to practice their task. The videotape of the simulation is sent to the online facilitator for assessment. Some feedback from the students in relation to the assessment method included:

"Loved studying online - felt like the simulated learning experience, and assessment, was preparing me for the real world."

"Really enjoyed communicating on the bulletin board and that it was part of the assessment."

"I liked that some of the assessments to me were part of the learning and directed to work outcomes."

CONCLUSION

It can be considered that the experience at Sevenoaks Senior College was a more positive experience for the students and facilitators than Forrestfield Senior High School. This may be due to a number of factors, however, the qualitative research undertaken at both Forrestfield Senior High School and Sevenoaks Senior College would suggest that five factors stand out as particularly important:

1. Pre-selection of students, checking that they want to (a) study the unit and (b) study online, may make for a more motivated group

Learner motivation is an important factor in the success of online learning programs, particularly those which call for skills in self-direction and self-management. Learner motivation is clearly important in all learning settings. However, in the online environment, where there are additional barriers facing the learner (eg their readiness to undertake self directed study, technical infrastructure and computer literacy), motivation becomes even more critical. Selecting learners with an interest in the content, and in learning flexibly is a sensible way to start. This builds skills and confidence in facilitation and the technology/infrastructure underpinning the online program. The inclusion of too many learners with low levels of motivation may create a peer group that negatively influences the group.

2. Ensure that the technology and the infrastructure are fully tested and support the learning design

Before implementing an online learning program, it is useful to determine the technology and infrastructure requirements. There are a range of options that could be considered to support the content and collaborative dimensions of online learning. Content can be presented through:

- the Internet
- CD
- an Intranet
- printed materials; and/or
- a combination of some or all of these.

Collaborative designs could use:

- email
- discussion boards
- chats
- telephone
- face-to-face classes/workshops; and/or
- a combination of some or all of these.

Technology/infrastructure is an important consideration in choosing from these options. It is beneficial to test the program beforehand and consider what limits (if any) should be placed on the online learning program (eg student numbers, number of classes/workshops etc).

3. Professional development

The development of skills to equip teachers with the necessary capabilities to facilitate online learning environments and to engage and motivate learners in on- and off-line settings does not happen without practice. The deployment of work-based, action learning professional development methodologies is a useful way to develop these skills and provide teachers and trainers with time to reflect and build their own online style.

4. Integration with other forms of learning in schools

The integration of online learning experiences with strategies that develop practical skills (eg Structured Workplace Learning) may be a useful way of better preparing learners for the workplace.

5. Project- and team-based approaches to online learning in schools

National Flexible Learning Toolbox (VET) and Learning Federation (K-12) initiatives have facilitated the development of a high standard of online learning content. The potential to use chunks of this online content to support learning across a range of disciplines, perhaps through the establishment of cross-functional projects and teams, has not been tested. This may be a fruitful area for further research and development in 2003.

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