

Online Courses for Traditional Schools & Distance Education Students

A Natural Convergence and Opportunity: One School's Journey

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Recently there have been many cries in the popular press for educators in schools and universities to adapt a new pedagogy that utilizes more fully the technology available to them (Power, S, *The Age*, 2004; Norrie, J, *The Sydney Morning Herald (SMH)*, 2005; Riekert, M, *The Age*, 2005; Edwards, H, *The Sun Herald*, 2005; Doherty, L, *SMH*, 2005). The call is not only to make the most of the capital invested in this technology, but also to develop new teaching and communication strategies that better reflect the preferred learning and communication styles of the 'net' generation. This inevitable shift will radically change schools and bring many exciting opportunities and changes for students and teachers in both traditional schools (large and small) as well as those students who study outside of a school environment.

Whilst the cry for change in pedagogy for students attending schools and universities is being made, there had been a dramatic increase in the number of courses being offered via distance education, utilising the technology and pedagogy being identified as what students would prefer. Hall (2005) reports that in 2006, NSW universities alone have offered distance education students over 150 different degree and diploma courses, with many regional universities having significantly more off campus students than on campus. In 2006 the NSW TAFE's distance education arm, the Open Training and Education Network (OTEN) has offered over 250 courses, with an enrolment of over 37 000 students. (<http://www.oten.edu.au/oten/about/institute/institute.htm>)

This is a national trend. The University of Southern Queensland (USQ) has over 15 000 external students (of which only 4000 reside in Queensland) and the Southern Cross University has over 6500 students studying externally, which is 40% of their student population. (Hall, 2005)

The advantages of distance education are many and obvious. The flexibility that it affords, allowing students to juggle work, family, other study and social lives, being the most significant. Statistics from the Department of Education Science and Training (DEST, 2001; DEST, 2004) show that while the number of students studying at universities externally has increased only slightly from 2001 to 2004, the number of students who are choosing multi-modal study, eg enrolled in both full time and distance education courses at the same time, has significantly increased. (3.4% in 2001, 5.6% in 2004)

Associate Professor Alan Smith, Director of the Distance and E-Learning Centre at USQ, was quoted as saying (Hall, 2005):

'In the past 10 years there's been a real convergence between distance and on campus education ... A lot of principles that have been followed in off campus or distance education are now being incorporated in all forms of teaching, such as resource packages and a greater use of technology, such as online forums.'

As schools and universities begin to develop an effective pedagogy and use of technology that is right for their onsite students, it may easily become a viable option to make their courses available to offsite students.

Northern Beaches Christian School (NBCS) has for many years, been developing a pedagogy, learning environment and hardware infrastructure that uses technology effectively in the presentation of courses for our onsite students. We are now modifying and developing these courses and making them available to students in other schools, utilizing the hard work previously completed by our classroom teachers in the creation of quality courses that use technology creatively and effectively. This paper will briefly outline the evolution of the e-learning journey for NBCS and discuss the advantages for both the students and staff who use technology in teaching and learning.

NBCS is an independent school in Terrey Hills, in the Northern suburbs of Sydney, Australia. It has a combined student population, on one campus, of just over one thousand students in both Primary and Secondary School. The school has the equivalent of 105 teaching staff with an average age of 38.2 years. The school is 25 years old. It has experienced significant growth in the past seven years, tripling its student population.

The three most significant factors in the development of an online learning environment were the appointment of key personnel, the provision of tools and training to all the teaching staff and the development of the NBCS Portal.

NBCS Principal, Stephen Harris, read an article that stated that the best way for schools to create significant change in the area of ICT was to create a position within in the senior management team. In doing this the area of information services is given a profile and powerful voice to enable real change to occur quickly across the whole school. The vision was to develop the school's ICT infrastructure, to develop the ICT skills of the NBCS staff and to develop an online learning environment that could be easily used by staff and students. In other words, technology was to play a much bigger part in the teaching and learning at NBCS. A Deputy Principal of Information Services was quite a unique role within a school in 2001 and probably still is today. Over the years the role has changed significantly, but there has been no change to the vision that led to the creation of the role, that is to expose, empower and enable staff to make the most of the technological teaching tools available to them and the students. The impact this has made at a local level for the full time NBCS students has allowed the vision to also include students who do not physically attend NBCS.

Other key personnel, in the early years of the NBCS Portal Project, included the appointment of a Co-ordinator for Online Learning and an Information Services Resource Consultant. These staff members worked alongside teaching staff, supporting them in their use of technology both in the preparation of materials and the delivery of content in the classrooms, initially via the intranet. If teachers were allocated less than their full teaching load,

their unallocated time was directed to the development of online teaching materials. The two support teachers met regularly with these staff to assist and encourage them. These roles still exist, primarily for new or hesitant staff, as the experienced teachers are confident in using the technology teaching tools available. Recently a Director of Distributed Learning has been appointed to act as liaison with students, teachers and parents of non full time NBCS students. Significantly, it was teachers that were appointed to these positions.

Supporting the whole process is the highly competent technical team (technicians and contractor) who provide the technical advice and expertise to ensure that the ICT infrastructure supports the teaching and learning environment. These staff members work closely with and report to the Deputy Principal of Information Services. They also act as the, 'Just in Time Support' when teachers are experiencing a technological difficulty in a classroom. There is no better way to discourage a teacher from using technology in a lesson than having the hardware they are relying on fail to work, leaving them having to create an alternative eighty-minute lesson on the spot. If a teacher has an urgent need they can contact the NBCS IT office by phone or by sending a student so that assistance can be provided. The technicians are contactable via walkie-talkie.

Though all the people previously mentioned have played key roles, it is the classroom teachers that have played the most significant role in the process. The subject or stage specialists have used their expertise and what they know to be effective teaching strategies and then utilised the technology and tools available to them.

The importance of providing staff with the tools that they need in using technology in learning, and training them in how to use these tools was crucial. All secondary teaching staff are provided with a laptop computer. Primary teachers have a desktop computer in their classroom. This has ensured that staff members have access to the minimum tools they require to prepare digital content for lessons and enabled them to make this content available to the students. Teachers also have easy access to scanners, digital cameras, digital video cameras, microphones, webcams, class sets of headphones (with or without microphones) and any other hardware and software that would ensure that they are able to create digital content and lessons that use technology well. Although it has taken a number of years to achieve, most classrooms now have a data projector permanently mounted, which is connected to a desktop computer held within a teacher's lectern. These classrooms also have speakers permanently mounted and connected to this computer and some have wireless 'blue tooth' keyboards and mice so that 'the controller' of the computer can be a student at their desk or the teacher at the lectern or elsewhere in the classroom.

This has meant that teachers do not have to spend the first 10 minutes of a lesson, or their valuable break time, borrowing and setting up equipment. Having the equipment permanently set up generally means that it will work first time, every time. Teachers can now seamlessly use a DVD, explore websites, (including their subjects' intranet page) listen to an audio CD, mp3 file or podcast, watch digital TV using a tuner card inside the computer, view a Microsoft Powerpoint presentation, write collaboratively using the wireless mouse and keyboard, view and discuss an image or source document, use a Learning Federation Digital Learning Object, etc. As the technology is permanently set up, it may be used as a result of something that was unplanned. Eg a class discussion that leads to the use of Google Earth to locate a specific place, or students may refer to a website that they came across and they are easily able to demonstrate it to the class.

The provision of tools does not mean that every room has to be a computer lab with 20+ computers. NBCS

has many different learning environments to suit the rich and varied types of lessons that occur. Whilst some classrooms are computer labs, some only have a lectern computer. Some classrooms have break out rooms with computers and most classrooms have multiple network points. In these rooms teachers are able to borrow laptops from the Resource Centre so they can determine how many computers they will need to have in the classroom for a particular lesson. Some classrooms have 8 or 10 computers and yes – some have none. Ideally we would like to establish a flexible timetable so that teachers could choose a room that would best suit the lesson they are presenting. At present teachers can sometimes find themselves in a technological learning environment that does not match the lesson they wish to present. Teachers at NBCS are frequently swapping, bartering and begging to ensure that the room they are in matches the type of lesson they have planned.

Obviously it is of little use to provide someone with tools if you don't also show them how to use them. Using IT in the classroom is the dominant theme in professional development at NBCS. One afternoon a week after school, for six weeks of each term, as well as one afternoon and evening session per term are dedicated to professional learning in the use of IT in the classroom. Courses are presented in three-week blocks, focusing on the development of skills and knowledge that can be utilized in the classroom. Staff are encouraged to use this time practically to create resources that they will use in the classroom. Staff are also encouraged to play with and explore the technology available. Providing this 'sand pit' time is important, as busy teachers would normally find many other things that could fill that time and yet this exploration is crucial for the staff to broaden their understanding and develop their skills. Making the 'sand pit' time part of the school's professional development time ensures that staff do take the time to discover the new and exciting resources that are constantly emerging. It is the role of the Deputy Principal of Information Services to establish the content and select the presenters for these courses.

In 1984 the editor of the Forbes Magazine said, 'In the end, it is the poor who will be chained to the computer; the rich will get teachers.' Computer, data projectors, and Learning Management Systems, are merely tools to be used by what Steve Holmlund (2000) describes as the artists of the classroom.

'I consider excellent teaching to be both an art and a science. The science part is easier to learn (organization, objectives, activities, assessment, etc) ... but it is in the art form, when something within makes a connection happen between learner and material, tools and queries, the objective and the subjective, where the magic happens.'

The last factor in the ICT focus at NBCS that has significantly contributed to the development of content and courses that are able to be presented as online distant education courses was the development of the NBCS Portal. The Portal is an integration of a Learning Management System (LMS), email, remote access to the file server, an online timetable and access to online resources. Parents, teachers and students can now access course content, their files, emails and other online content twenty four hours a day seven days a week. The LMS that NBCS uses is Moodle. Moodle is a widely used open source piece of software that has been popular with both staff and students.

Early in the history of our exploration into presenting course materials online, NBCS staff were required to submit lesson content to a teacher who added this content into a course web page. Moodle allows teachers to manage their course page from home, school or anywhere that has internet access. It provides them with easy ways to

create quizzes, forums, wikis, links to web pages, links to Microsoft Powerpoint presentations, Word documents, spread sheets, pdf documents, digital learning objects, videos, audio files, applications, assignments etc. It also has features that enable students to submit work. Teachers are able to post work ahead at anytime, without the students having access to it in advance. Students only have access to the courses they are enrolled in. Teachers can access important statistics about how and when students are using Moodle.

These investments into strategic personnel, hardware (within a stable networked environment), software and training have led to the development of an ICT focused learning community where teachers are confident to use ICT tools in the classroom and to structure and present courses using an LMS, blending the face to face contact with the digital course material available through the LMS (blended learning). Some teachers are now taking the next step beyond teaching in a blended learning environment with regular face-to-face contact, to teaching in an online environment where there was infrequent or no face-to-face contact.

The advantages for students and teachers working in this ICT rich environment are numerous. For our onsite students, the school moved to four eighty-minute periods per day a few years ago. One of the reasons for doing this was to encourage teachers to include a variety of teaching styles and strategies within every lesson that hopefully used an ICT component. It is very difficult to get students to sit for eighty minutes in a 'chalk and talk' lesson. Through the provision of teaching tools and by teaching the teachers how to use them, we are seeing the creation of multimedia-rich lessons that are catering to a variety of learning styles. The teacher is the creator of a collection of learning experiences within the one lesson or a series of lessons that fit into the 'New Learning Environment' as described in the following table.

Traditional Learning Environments	New Learning Environments
Teacher-centred instruction	Student-centred learning
Single-sense stimulation	Multi-sensory stimulation
Single-path progression	Multi-path progression
Single media	Multimedia
Isolated work	Collaborative work
Information delivery	Information exchange
Passive learning	Active, exploratory and inquiry-based learning
Factual, knowledge-based learning	Critical thinking and informed decision making
Reactive response	Proactive, planned action
Isolated, artificial context	Authentic, real world context

Source: International Society for Technology in Education (ISTE), National Education Technology Standards for Teachers: Preparing Teachers to Use Technology (Eugene, OR: ISTE, NETS Project 2002) as used by Lajeane G. Thomas and Donald G. Knezek (2002)

Teachers are using a variety of communication tools that students choose to use outside of the classroom (mp3s, emails, websites, chat programs, forums, etc). The boomer, generation X and the small number of younger teachers who do not fit into these two generations, are using the preferred learning and communication styles of the net-geners and millennials discussed by Doherty (2005). As a result, student motivation and participation levels have increased, especially with male students who are far more willing to contribute to a forum than they are a class discussion.

The LMS has allowed both teachers and students to be organised. Teachers were able to centralise all their resources and structure them in a meaningful way. This is useful when a staff member is sick, as the work can be found in the LMS and it is also useful when a teacher moves to another school as information and resource loss is minimised. Most teachers are keen to use the LMS as they see it as an effective tool that saves them time with the improvement of their own and the students' organisation. We are now consolidating the work that teachers have done in their LMS pages to establish consistency in all courses. We are also modifying courses that have students enrolled in them who are studying in a non-blended environment (ie they are not onsite).

Students no longer have an excuse for not having resources (worksheets, handouts etc) or information, as all the resources and information that a student requires is available through the LMS, which students can refer to from anywhere in the world. It also assists the students to revise work and recall what content has been covered.

The experience of having NBCS teachers developing courses that use the NBCS Portal (including the Moodle LMS) in a blended environment has naturally led the teachers to begin presenting courses to students in other schools. NBCS currently offers four Stage 6 NSW HSC courses (Ancient History, Extension History, Legal Studies and Software Design & Development) to a small number of students from other schools. These courses have been developed over a number of years for onsite NBCS students. The LMS pages were easily modified to make them appropriate for students studying a course using distance education. The modifications included having key course information, such as assessment dates etc, always in the same place. More detailed information was required about which content, activities etc, as it is necessary to be clear and explicit which content is appropriate for each week of the course. Clearer instructions had to be written for activities, as teachers were unable to verbally explain what needed to be done etc. These adjustments were, however, the minor tweaks required, thanks to the hard work that had been completed in the past few years.

As previously mentioned, new staff were appointed to liaise with the schools and to support the NBCS staff in this new venture. These staff also organise optional workshop days (one per term) for the students who are primarily studying a course online. NBCS is in the process of registering with the NSW Board of Studies so that we are able to offer students 50% or more of the subjects they are studying for the HSC. This, understandably, has required us to write new policies and create additional resource material as part of the registration process.

NBCS is on a very exciting journey, developing courses and teaching strategies that can be used in blended and distance education. We have by no means 'made it' and there will always be emerging technologies to master. We have, however, learnt a lot along the way and we are continuing to learn about what works. Technology is a very powerful teaching tool, but like all tools, the users need to be taught so that they can become the artists Holmlund (2000) describes. Part of being a good artist is of course, knowing which tool to use to bring about the desired effect. This holds true with technology. Teachers need to be using their experience and knowledge of

who they are teaching, what they are teaching and how their students learn, utilising the best tools available to them to make learning happen.

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