An on-line Doctorate  
— the course and the pedagogy

Kathy Lynch, Faculty of Education Monash University

Abstract
In 1999 the Faculty of Education at Monash University offered a Doctor of Education (EdD) in external mode. External mode means that students can undertake the course from anywhere in the world, and need only to attend the University or meet with their supervisor on a specified number of days during the course.

In designing the external version of the course, a commonality between this course and the internal or on-campus EdD had to be maintained. Student's access requirements were established, and delivery and support mechanisms were instituted.

In designing the pedagogy that would be the guiding light in the delivery of the course many obstacles needed to be overcome. It was important that these obstacles were realised and solutions found, together with solutions for other issues that evolved during the development and delivery of the core subjects.

This paper describes the development of the delivery model which has currently been adopted for the EdD - external, why it was chosen, the problems and successes encountered from a lecturer, support and student perspective.

1 Introduction
The demand for flexible, student centered courses at all levels, and the need to increase student numbers at the doctoral level were catalysts for the development of the Faculty's professional doctorate 'external' course. External mode means that students can undertake the course from anywhere in the world, and need only to attend the University or meet with their supervisor, a specified number of days during the course. In addition to this, the Faculty felt that it had a valuable course but due to the limitations of location, it was restricted to students who lived in Melbourne. To broaden the catchment area of prospective students the Doctor of Education was made available in 'external' mode using the Web as the main means of delivering the content and communicating with the students.

2 History of the EdD - external mode
The Faculty of Education, Monash University established Australia’s first Doctor of Education (EdD) degree. It is a rigorous research-based and research-driven degree. It is oriented to the improvement of professional practice by extending the knowledge, expertise and skill of students through the application of research to educational problems and issues.

In late 1996 Monash University's PhD and Scholarships Committee supported the introduction of Doctoral programs by external mode. By mid 1997 the Faculty had started the development of a proposal for what was then referred to as the 'International EdD'. This program was to be developed for international cohorts of students and contained residential schools and its content to be delivered flexibly.

During 1998 the current EdD external mode evolved from the 'International EdD' and had its first intake in Semester 1, 1999. The most substantial changes from the initial proposal were that it no longer was to be specifically an 'International EdD' as advertising for the initial intake was to be local. The second substantial change was that for the at least the
first intake, the elective offerings would be restricted to one specific area rather than a range of areas as in the EdD internal. The Faculty has world-recognised strengths in leadership, policy and change and it was decided to seek students who would be interested in these areas.

The development of support procedures and on-line content was begun late 1998.

3 Course Structure

The EdD external course is available in a flexible mode to part-time students only and involves a combination of Web-based teaching and supervision, and residential study. The subject structure for this mode is identical with that of the on-campus mode, in that the core double subject (GED0901/GED0902) must be taken in the first year, followed by two elective subjects. The electives will be drawn from the leadership, policy and change area. For students commencing in the 1999 academic year, the structure was as follows:

<table>
<thead>
<tr>
<th>April 1999</th>
<th>Two-week Easter school at Clayton campus: enrolments; introduction to the course; orientation to Monash; introduction to electronic and information facilities; reading for core subject teaching; supervisory contact and establishing arrangements; preparatory reading for research topic.</th>
</tr>
</thead>
<tbody>
<tr>
<td>First and second semesters, 1999</td>
<td>Core double subject (GED0901/GED0902) delivered in Web-based mode, including on-line tutorial direction and support, on-line discussion forums, and multimedia materials.</td>
</tr>
<tr>
<td>Year 2000</td>
<td>Two elective subjects delivered by flexible Web-based mode, involving on-line tutorial direction and support, on-line discussion forums, and multimedia materials. (On-campus versions of the subjects may also be available during summer school.) Preparatory reading and development of thesis proposal.</td>
</tr>
<tr>
<td>Year 2001 (and subsequent)</td>
<td>Three week summer school: workshops on research methodology, research seminars, theoretical and data analysis, and thesis preparation. Continued thesis development with on-line supervision and discussion forums. An additional 5 day residential period is required each year, the form of which can be negotiated.</td>
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</table>

The core subjects are presented as a series of four modules each with their own issues and delivered by experts in the field. This means that a core subject could have four or more lecturers, in addition, some modules have guest speakers.

4 Development

For the EdD external mode to be successful a number of areas needed to be critically examined with specific reference to the notion that regular attendance by students was not required, and that the students may not be close to a tertiary organisation, let alone Monash University.

This development can be divided into three areas:

1. support - academic and administrative
2. teaching strategies and delivery
3. content
4.1 Support - academic and administrative

Through discussion with the Faculty’s Research Degrees office and key personnel in the EdD, it was established that there was a need for an experienced academic to be available to students during the core subjects. This had not been the case for the on-campus EdD students, but after discussion, it was decided that the on-campus EdD students could take advantage of this initiative. It was determined that the academic who was to take on the academic support role did not require expertise in all issues covered in the content of the two core subjects, but would be a person who could nurture the students’ development and progress through their initial stages of becoming a researcher.

Administrative support was to be two-sided, clerical and tracking. Careful tracking of a student through the EdD is critical irrespective of the mode of enrolment. The university electronic administration system does not currently lend itself to all the ‘check points’ of an EdD student’s candidature. With this in mind a database is currently being devised to accommodate these needs. It was also decided that all correspondence from students regarding their candidature was to be shared between the academic support and administrative support personnel. The staff would deal with any issues that may arise either by solving it or passing the correspondence on to the most appropriate person. In resolution, the issue would be ‘observed’ by at least two staff members - one academic, the other administrative.

The technical and library support to students who are enrolled through the Faculty is well regarded throughout the University. The inevitability of students relying heavily of the Web for information prompted the completion of the Faculty Library Web page. In addition to this suite of pages, the University subject librarians created a Web page to support on-line students. The Education Helpdesk already had a Web page that was to be updated due to the additional requirements of on-line students.

To eliminate initial software conflicts and connection time to the Web, a CDROM was created and distributed to the EdD external students. Included on the CD were Monash licensed or shareware software, such as:

- browser software, (Netscape and IE)
- Real Player
- WinZip
- Acrobat reader
- EndNote

With so much administrative content on the Web for the course, it became apparent that there was a need to develop a Web page that would act as a repository of information. This page would be a consolidated place for information that could assist the students in studying this course. The origin of the content was to be transparent, we felt that it didn’t matter to the students if the information was from Research Branch or the Faculty, as long as the information they required was easy to find. The EdD page includes general information about the EdD, specific information about the external mode, email links to the course coordinator, core subject coordinators, academic support, administrative support, helpdesk, and Education library. There are also links to the Web pages of the course brochure, the Faculty Handbook, the Education library, the Main library, Research Branch, Research Grants and Ethics, ERCSS (Educational Research Community of Staff and Students), the EdD external course, the Faculty’s threaded discussion area and the EdD core subjects. The EdD external Web page outlines the pedagogies used throughout the
course, the technical requirements needed to study the course and links to contact names, places and core subjects. With the implementation of the Monash Portal much of the University-wide and Faculty-wide information currently on the Web page will become redundant.

4.2 Teaching strategies and delivery
Determining a way to deliver the content of the course was challenging. Many factors needed to be considered, the most important one seemed to be the lecturers' teaching style. Using an on-line environment to delivery the course opened up avenues of teaching that many lecturers had never experienced let alone used in their own teaching. Over the last few years the Faculty has been innovative in the use of information technology and telecommunications, and as such, a range of technical facilities were already within the Faculty's computer infrastructure which could support a wide range of web pedagogies. The Faculty's experience with these technologies opened up avenues for the lecturers, avenues that were more appealing than the 'text on screen' scenario or a 'transplant of existing practice to the new medium' (Thornburg, 1996).

To assist each staff members' selection of appropriate technologies and approaches, a number of presentations were developed. These demonstrated various possibilities, and provided opportunities for discussion about personal style and pedagogy. With an informed view of how they might deliver their module in one of the core subjects, and after discussions with the author, lecturers decided upon approaches and technologies that they would use for the delivery of their module.

The teaching styles of the academics concerned varied. Technologies were explored that could transpose the teaching style and personality of the lecturer as well as suiting the content and discourse.

Though the bulk of each subject is textual and delivered html documents, the materials contain links to other Web pages, downloadable transcripts of lectures or presentations, and audio, video and images.

4.2.1 Pedagogy
The approach used throughout the course is based upon constructing a learning and research environment that is appropriate to a professional doctorate. Lecturers were required to analyse what they wanted the students to achieve in their module, and how could they facilitate this if they were not in face-to-face contact with the student each week. Some lecturers needed to move beyond their standard models of instruction, and accept or adopt 'new' models which could help them achieve the desired outcomes. The use of information technology and telecommunication technologies were very important in assisting in achieving this aim.

To this end, as each lecturer decided how they wanted their students to engage with the content, the author assembled the content in a way that supported this decision. This is probably best illustrated with an example: The lecturer may have decided that they wished students to engage with the content and exchange information about a particular reading. The reality of this is that the reading is supplied (either as paper or url) and the lecturer may then have some comments or activities to be placed on the module's contents page. In the on-line discussion area, the students can read an embedded article and make comments, or pose further questions for other students or the lecturer. Whilst in the discussion area they
could read other peoples comments and may contribute to further on-line discussion. The
student need not respond or comment immediately, but post a message after some
reflection. The lecturer might also select to have a synchronous conversation with the
students.

The content could be in a number of forms depending on the way the lecturer feels is their
preferred way to engage the students. Video, audio, synchronised web pages with either
audio or video, web slide presentations, web pages, links to resources, live broadcasts, or
ability to download content (notes, or transcripts), have all be used in the current subjects.

4.2.2 Streamed audio and video
A number of the lecturers have said that the usual and most comfortable way for them to
convey knowledge was by talking with the students. The Faculty has trialed streamed audio
in a number of projects since 1997. Synchronising streamed audio with Web pages had
also been used to deliver content. Some of the lecturers thought this would be a very useful
way of delivering parts of their subject material. Others wanted to record an interview, have
this played, and a transcript made available for student reflection. Research seminars and
guest speakers have been an important component of the on-campus EdD course and often
these sessions have been videotaped. The possibility of the video or the slide presentation
being made available to the external students was looked upon favourably by the lecturers.
The Web-based presentations could then be used by all EdD students.

4.2.3 Images
To break the mere text on screen appearance of the content, the lecturer’s photograph with
a link to their staff page appeared in appropriate places of the module, as did email
hyperlinks with the subject line already inserted. Scans of bookcovers and tables of
contents were also added to assist the students in recognising a book and to add some of
the teaching aides that normally are used in a face-to-face teaching environment.

4.2.4 On-line asynchronous and synchronous discussion
Critical to the EdD external is that students are able to participate in critical discourse with
peers and lecturers. The use of threaded discussion and synchronous chat was intended to
be an easy means for the students and lecturers to communicate with each other as a
community. The threaded discussion area was propagated with leading comments that
would draw reactions from students. Each week one hour was set aside for the lecturer,
whose module was currently being discussed, to be available for a synchronous chat
session. These sessions were often followed by the lecturer writing a summary of the
discourse and placing this in the threaded discussion area. The asynchronous discussion is
not always connected to a chat session, students and staff can post questions, comment,
seek information and hyperlinks to share with other interested parties. Non-external EdD
students were also encouraged to join in with both the synchronous and asynchronous
discourse. Though textual, the discourse between students and their lecturers is paramount,
and has been crucial to the students enrolled in the external mode.

Examining the following extracts from the on-line discussion system allows a cursory look at
some of the students and lecturers opinions of the availability of this system.

For example, it struck me that having an agenda would be useful. I also found it easy
to talk about administrivia but harder to open up discussion on issues relevant to
teaching.
I wonder whether people couldn’t be asked to make a specific contribution to each session by pasting an answer to a specific question before the chat begins.

External Student - GED0901 March 23, 1999 08:43 PM

The external EdD students had their first on-line discussion last night (23.3.99) It went quite well, though it is a funny experience. Its hard to converse because each message has to be typed in. SO it all seems a bit stylised. Still, it was an opportunity to begin to learn to use the technology.

Lecturer - GED0901 Tuesday, March 23, 1999 07:48 PM

Hurrah! I’ve found the box to write in. Sorry I missed the chat show but I did try to get into the "room", never mind more success next time round I hope!

External Student - GED0901 March 23, 1999 08:36 PM

I am a student that has just commenced the EdD as a campus based student. I understand that the content of the off campus course is essentially similar to the on campus presentation. Anyway here are my responses to the questions in Task 1.

On-campus Student - GED0901 March 24, 1999 11:41 AM

It’s terrific to hear(see) your message. I’m really glad that you are going to become less "external". I think it would be great if the internals and externals communicated more. I would find it incredibly hard to get/keep motivated if I was an external student. I enjoy our class interactions.

On-campus Student - GED0901 Friday, April 30, 1999 09:10 PM

I’ve been following all the discussion about using the on-line discussion forum. I think there is a lot of value in finding ways of using this technology. It will enable internal and external EdD students to link up, network and provide support to one another.

One way of moving beyond the discussion about conferencing is to share some of the resources we have each found.

Lecturer - GED0901 May 10, 1999 12:52 PM

The on-line discussion system for the second semester subject has not been used as consistently as it was for first semester. I can only suggest that the reason behind this is that the students are not finding the contact as critical as it was first thought, or perhaps not as rewarding.

4.3 Content

The content for the EdD is the same, regardless of the students’ enrolment mode. Lecturers were required to prepare the supplied reading material for the external mode course well in advance of what they would have normally done. The supplied readings are usually the basis of discourse in the asynchronous environment and as such needed to be selected with this in mind. Due to unclear electronic copyright regulations these readings were compiled, photocopied and distributed by post to the students at the beginning of each subject.
A skeleton Web page to house the content was developed and approved by the academics in the EdD group. The Web pages were constructed with the supplied subject materials, and in most cases were authored by the author in consultation with the lecturer. The content was inserted, interactivity devised, navigation determined, and images, audio or video prepared for Web delivery.

In some cases activities were developed for students to complete and post their ‘piece’ into the on-line discussion area. These were then followed up with group discussion using either synchronous or asynchronous technologies.

Wherever possible, the content was made available to the students in a number of formats, allowing the students to determine what suited them the best, for example listening to the audio, or downloading the transcript.

The content itself is accessed from two levels; the top level is accessible to the world, and contains an overview of the module, the real content or ‘guts’ of the subject is password protected.

5 Technical Information

- WebServer - Apache server on Linux Operating system
- Web development software - FrontPage, or Netscape Composer or Word95
- Streamed audio and video - RealNetworks (WindowsNT)
- Threaded discussion and CHAT - O'Reilly’s WebBoard
- Database of subjects with on-line support - ColdFusion and Access
- EdD candidature tracking - Access
- Content - each lecturer has their own directory on the WebServer and use FTP to publish the content. The bulk of the content for each module has username and password restrictions. This has been designed so that anyone can get an idea of what the module is about, a ‘taster’ of the module, they then need to enrol to gain access to the rest of the content for the module. Problems and successes

The true outcomes of this course will be revealed when a thorough evaluation is conducted, but in the meantime, the table below is a summary of the perceptions of the lecturers, the students and the support staff.

<table>
<thead>
<tr>
<th>Problems</th>
<th>Successes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecturer</td>
<td>New skills learned and experiences (Web authoring, web video/audio)</td>
</tr>
<tr>
<td>Content needs to be prepared well in advance</td>
<td>New approaches to pedagogy examined</td>
</tr>
<tr>
<td>New skills and technologies and pedagogies need to be understood let alone developed.</td>
<td>Critical examination of what and how the content is delivered</td>
</tr>
<tr>
<td>Technical problems associated with accessing the discussion system</td>
<td>Visualisation of how technology can be used to deliver quality web-based content</td>
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<tr>
<td>Inconsistent use of the on-line discussion by student and all lecturers</td>
<td>The need to update and maintain currency of content</td>
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<tr>
<td></td>
<td>Greater use of Web resources</td>
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<td></td>
<td>Updating of staff home page and</td>
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<tr>
<td>Student</td>
<td>Technical problems accessing the on-line discussion system (synchronous and asynchronous)</td>
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<td>---------</td>
<td>-----------------------------------------------------------------------------------------------</td>
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<tr>
<td></td>
<td>The need for multiple usernames and passwords</td>
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<tr>
<td></td>
<td>Inconsistent or limited use of the on-line discussion system</td>
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<tr>
<td></td>
<td>Time - work versus study versus family</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Support</th>
<th>Addressing the technical problems</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Timeline for the development not adhered to through a delay in receiving content from the lecturer, or a delay in the 'sign off' of the webbed content</td>
</tr>
<tr>
<td></td>
<td>The reliance of some lecturers on other staff to web the content, rather than write it themselves. (note: this was feasible in 1999, but is not desirable after 1999)</td>
</tr>
<tr>
<td></td>
<td>A development model has been trialed</td>
</tr>
<tr>
<td></td>
<td>Standards, procedures and samples have been developed</td>
</tr>
<tr>
<td></td>
<td>Paperwork for readings was organised well in advance</td>
</tr>
<tr>
<td></td>
<td>Creation of a Web presence for the EdD course, and for services within the Faculty available to research students. These pages may filter some of the frequently asked questions</td>
</tr>
<tr>
<td></td>
<td>Development of a CD master for research students</td>
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</table>

6 Evaluation
At the time of writing this paper, no formal evaluation had taken place, though planning had commenced to develop a questionnaire for students and staff involved in the EdD external. The evaluation will be looking at not so much at the content, but the teaching strategies, student needs, technical and library support, and the development of the on-line content from the academics perspective.

The enrolment for external EdD students for 1999 was five (1 Victorian, 2 NSW, 1 SA and 1 New Zealand) and for the on-campus course there was ten. During semester one, two students deferred their external candidature with the reasons being work commitments. Due to these limited numbers the first formal evaluation will be very small but I feel the feedback will be vital for future development of the course.

7 The Year 2000
The Faculty is committed to offering the EdD external again next year and beyond. It will continue to use flexible approaches to deliver the material and for the students and lecturers
to engage in discourse. As flexible delivery experiences of the lecturers and students develop, so will approaches to delivering the materials.

In 2000 the following things will happen:

- The first intake of EdD external students will begin their electives in the areas of leadership, policy and change.
- Two electives in leadership, policy and change will be developed for on-line delivery.
- A new intake of students who may be located anywhere in the world, will commence the EdD external course.
- Lecturers will construct more of the on-line content than has happened in 1999.
- There will be greater use of the on-line materials by the on campus EdD students.
- The discourse in the EdD community will be transparent to the mode of enrolment of the students, and
- Both a formative and summative evaluation of the delivery of the external EdD will be undertaken.
- The lecturers will continue to be given training on the hands-on development of content for the web, as well as seminars on the issues associated with teaching, learning and researching in an on-line learning environment.
- Staff will once again be given the opportunity to partake in seminars regarding managing and moderating on-line discourse.

8 Conclusion

The development and delivery of the EdD external has given numerous staff within the Faculty challenging and valuable experiences. There have been limitations and constraints through the development of this flexible course, some due to the limited cohort of students, others are related to staff workload, but I feel the project has been a step forward for the Faculty and will continue to be a guiding light in the on-line delivery of educational content.
9 References


Mergendolher, J (1996) 'Moving from technological possibility to richer student learning: revitalized infrastructure and reconstructed pedagogy' In *Education Researcher* Vol 25, No 8 pp43-46


10 Appendix - Web addresses for the EdD

Faculty of Education - http://www.education.monash.edu.au/
Core subject, GED0902 - http://www.education.monash.edu.au/subjects/ged0902/