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An Australasian experience of the use of technology in legal education and research - some lessons for Britain and Ireland.

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Introduction

This paper will describe the Australian Taxation Studies Program's (ATAX's) experience of the use of modern technology in teaching a discipline based in Law. It will examine that experience and highlight aspects which might have been done differently. It will also consider some of the options for the future development of the program's method of educational delivery. The paper will, from time to time, indicate any valuable lessons, learned in the course of ATAX's development, which may assist others attempting to develop similar programs.

The need for ATAX

The Australian Taxation Studies Program (ATAX), in the Faculty of Law at the University of New South Wales was established in recognition of the need, in the region, for a centre of excellence in Revenue Law and for access to teaching and research of consistent quality for students widely distributed in the region, especially in Australia. During the last decade or so the Australian taxation system has become increasingly complex and, perhaps, unwieldy. Writing in 1990, Grbich described the changes thus:

'Following the historic tax Summit [in 1985], the Australian tax system has undergone the most thorough analysis and structural changes in half a century. As a result, the main structure of the Australian tax system has been modified significantly. The specific changes are important:

- a so-called "capital gains tax" at normal tax rates (in fact this is a vastly extended income base);
- thorough restructuring of the corporate tax system;
- a significant roll-back of tax avoidance opportunities and tax shelters, particularly in fringe benefits and in attacks on tax evasion;
- a dramatic lowering of top marginal tax rates;
- a vigorous redirection of the administrative machinery in the Tax office and tax collection procedures; and
- a new framework of tax in the off-shore area.'

The pace of change has slowed little since these words were written, and is about to accelerate with

the current Tax Law Improvement Program, which is busy rewriting the income tax statutes in a simpler style, and the evident intention of the Federal government to embark on major tax reform. The comments made thus far relate only to the tax changes made and to be made by the Federal government in Australia. The situation is complicated further by the fact that each of the six States and two Territories in Australia also has a tax base and distinct legislative power to tax for their own revenue. Their tax systems have also undergone change in recent years.

It is probably plain from this that a need has developed for widespread, high level, education in taxation throughout the taxation industry.

This need was recognised by the revenue authority in Australia and in 1991, after a rigorous public tendering process, ATAX was established at the University of New South Wales (UNSW) under a contract between the university and the Australian Taxation Office (ATO).

ATAX is based at the Cliffbrook sub-campus of UNSW in Coogee a few kilometres south east of the Sydney city centre. ATAX delivers tax education across all of Australia and it reaches a number of overseas locations. ATAX is designed to educate tax professionals for all sectors of the tax industry. It is intended that ATAX graduates should be able to work with equal facility in the Australian Taxation Office, state tax offices, professional practice or private enterprise.

In order to achieve these ends, the program was developed through intensive consultation with a large range of experts and interests both in the accounting and legal professions and in the University. It is also subject to periodic review and evaluation, by the staff, the students and by 'outsiders'. This is achieved in a number of ways:

- by sessional evaluation questionnaires sent out to students and by 'feedback' sessions with students at orientation twice a year;
- by formal review of aspects of the program such as a current review of the Bachelor of Taxation degree currently being undertaken by a sub-committee of the ATAX Teaching and Curriculum Committee. The recommendations of this sub-committee will ultimately be made to the Academic Board of the University;
- by consultation with the ATAX Panel of Experts - composed of representatives of the accounting and legal profession, the University and the ATO.

Degrees offered and the program of study

All ATAX courses are offered on a part-time basis although full-time study is also possible. The program handbook indicates that the ATAX educational experience, '...is intended to be an innovative synthesis of distance education and campus based study, designed to cater to the needs of decentralized students in the workforce and to deal with the problems of a demanding and rapidly changing discipline.' Later in this paper the methods used to achieve this 'synthesis' will be described and discussed.

Four courses of study are offered, with some students moving on to a second course having successfully completed their first.

The Bachelor of Taxation (BTax) commenced in 1991. The program describes it as

'...[A] purpose built degree designed to give a balanced education in the foundations of taxation and in the essential component disciplines. It focuses on developing competence in core tax subjects. It develops skills in accounting, law, economics, computer information systems and exposure to wider humanities issues.'

Because the BTax is a part-time degree it takes six years to complete and its first graduates emerged from their studies only in 1997.

The three graduate courses commenced in 1992. A Graduate Diploma in Advanced Taxation (Grad Dip Advanced Tax), a Graduate Diploma in Taxation Studies (Grad Dip Tax Studies) and Master of Taxation (MTax) are offered. Entry into the graduate program depends on previous studies and experience. As the University Handbook for the program puts it:

'This postgraduate program emphasizes self-directed research, including relevant research skills, and a critical understanding of the Australian Tax System.'

Again, an attempt will be made later in this paper to describe how these things are achieved and to question whether more can be done to achieve them.

The teacher/students interface at ATAX

In this section the author will describe the components typical of the teacher/student interface at ATAX. In the context of each component an attempt will be made to evaluate that component and consider its worth within the overall educational experience of each student. The observation is worth making at this juncture that many aspects of the delivery mechanisms used at ATAX are not what might be termed 'high technology'. The point is not made in order to be defensive in any way, but to emphasize the need to ensure that appropriate technology is employed in legal education, rather than the newest, or most attractive for some other reason. This is extremely important where the educational technology is not provided by the educational institution but relies on what is readily available to students. It will be noted in what follows that there is a fairly heavy reliance on, for example, standard telephone and video tape media. This is because these media are generally available to the ATAX student population, whereas access to the Internet is not nearly as widespread. In a sense, the most appropriate technology will often be 'the lowest common denominator'. This certainly seems to be borne out by the ATAX experience. Having said this, this it must be borne in mind that the lowest common denominator in technology is constantly changing in modern times, and appropriate technology in 1998 will be replaced by other technology within a few years.

Study Materials

The fundamental medium of communication with students, and the principal source of educational content, is the package of materials designed for each subject taught in ATAX.

All study materials are subjected to an instructional design process conducted by Central Queensland University, under a contract with ATAX. The result is a set of materials which engages the students and provides various stimuli to learning. As the other forms of interaction with the teacher are voluntary, the subject materials are intended to stand alone, in need, and to be as interactive as possible. They are also intended to provide a resource for employees of the ATO, other than students, and so need to be accessible and readable for persons who are not expert in the particular field.

The use of questions is very important in the design of ATAX study guides. The materials are characterized by frequent questions and problems intended to interest and engage the reader. Questions may be found in headings, in Activities or in opportunities for reflection. The latter two forms of question are highlighted in the materials by means of icons. Activities are marked by a pad and pencil icon, points for reflection by a large double question mark or a cartoon character accompanied by a cartoon 'thought bubble'. Unlike an Activity question, no answer or suggestion is provided for solving the questions for reflection. The diligent student will find his or her own answer.

Another feature of the materials is the integration of the study guide with the necessary reading in the subject. This is sometimes done by means of a short quote, by means of more substantial pieces of text which have been scanned into the materials, or by means of a link from the materials to one of the texts required to be purchased and used in conjunction with the study guide. In some subject materials a textbook or casebook does not cover the relevant extra material. Where this occurs a copy of the required reading is copied, referenced and enclosed as one of a set of readings accompanying the module of the study guide in which reference to it is made. An 'open book' icon in the margin of the page identifies references to required readings. This icon shows an open book with lines printed on its pages. There is another icon frequently used in the materials - an open book with blank pages. The latter signifies a reading that is optional and indicates a link which the reader need follow only if he or she is particularly interested in the topic under examination in the subject.

One might wonder why it is that so much work is done for students in the provision of readings. This is simply a response to the fact that the materials are intended to be used in locations, of which there are many in Australia, where access to adequate library resources is extremely difficult.

Frequently a reading required of the students is followed by an activity which questions the student on specific aspects of the reading. There is some debate amongst ATAX teachers whether or not these activity questions should be accompanied by solutions or, at least, suggestions as to how the solution might be reached. Those who prefer not to provide solutions consider that doing so makes things too easy and discourages students testing their own ability and pushing themselves. The argument in favour of providing solutions is that this provides guidance for students who may be grappling with a problem, without confidence and in isolation. The better view is that the materials should include solutions, sometimes called 'feedback' for the activities to enable students to test themselves on their knowledge and understanding. This is particularly important for students in remote locations, without peer group support. If there is a concern that the students will simply read the answers and not push themselves to find their own solutions first, the feedback can be used to identify the path which will lead to the answer rather than simply provide the answer without requiring some effort. The feedback to the activities in the study guides is placed at the back of each module and so requires a little more effort to find than it would were the feedback placed adjacent to the activity questions.

In addition to purely paper based study materials, supplementary material such as computer discs, audio and videotapes accompany many subjects. The use of these media affords students a variation from the standard paper based model. Computer discs are used primarily in accounting and computer information systems subjects, although this will no doubt gradually change. Audio and videotapes are presently used primarily in law subjects. Videotapes provide a visual stimulus for students who are finding distance education difficult and need to actually see the lecturer in order to understand a principle. Videotapes that are provided for these purposes are linked to subject materials by means of an icon and are then made available to students via their local Learning Centre library. Depending on the rules imposed by the local librarian, students may take these videotapes home overnight or may view them on the Learning Center's Video Cassette Recorder, usually during office hours. The present trend in use of videotapes in ATAX subjects is declining, although they are used extensively in the Orientation program, which is discussed further below. They are also used as a proxy for attendance at intensive face-to-face classes, which are frequently held in the regions, but only where student numbers justify this.

Where audio tapes are used in subjects, they are provided to every student in the subject as part of the study materials. They have proved to be an ideal means of providing access to expert opinion of visiting lecturers who are often asked to record a tape, or be recorded whilst being interviewed, when visiting ATAX. They are cheap to produce, easy to handle and hardly any students find them inaccessible due to lack of technology. Many listen to these tapes on their car tape decks or personal music systems. Study thus becomes something that can be done on lengthy city commuting runs by city dwellers, or on long country drives by students who live or work in remote country areas. Both

are typical of large numbers of ATAX students.

The use of paper based study materials, supplemented with portable electronic media, has a number of advantages. They can stand alone and students have been known to pass subjects without doing any more than studying the guide thoroughly. The materials provide a solid base for students to undertake extra study and research in areas of specific interest to them. They provide an excellent and accessible resource for students and teachers in other subjects, for researchers who have access to the materials and for prospective students curious to know what will be expected of them should they enroll in a particular subject in future. In addition, the fact the study materials also include, at the start of the session, a full timetable and copies of the assignment questions together with notices of due dates, mark allocations, word limit requirements and assessment criteria, means that students can plan their study at the start of the term. There should be no surprises in store for them.

The most significant disadvantage of the use of paper based study materials is the cost of production. They are expensive in terms of time involved in writing them, editing them to set standards of instructional design and updating them. These costs are probably not particularly significant relative to the costs of buildings, classrooms and other infrastructure, much of which ATAX does not bear. The costs of printing and delivering paper based study materials, however, are significant. The fact that taxation law changes so frequently means that lead times for the final preparation of materials for printing and distribution are short and the printing of materials has to be done, sometimes literally, at the last minute. The reliance on written materials also requires the institution to undertake a large scale distribution process at the start of each term in order to get usually two, sometimes more, sets of subject materials to about 1,200 students. Doubling handling of materials also occurs, of course, when students vary their enrolments. Further sets of materials are also distributed to each of 26 libraries provided by ATAX around Australia. Alternatives to this form of distribution are discussed later in this paper.

The Weekly Bulletin

ATAX students do not gather around a notice board every day in the way that students in a conventional face-to-face program do. They have no opportunity to do so. In addition, few have the means to access a Home Page notice board on the Internet. The original alternative means of communication, at the commencement of the program, was the 'Weekly Fax'. This weekly communication contained all the sorts of information that one would expect of a university notice board (from which all of the old notices have been removed!). The information might be of an administrative nature such as notice of dates and deadlines for variations of enrolment fee payment and so on. Academic information also has to be made available and so the weekly fax was used for matters such as a references to new cases, clarification of points raised in discussion, information regarding progress on the marking of assignments, names and contact details of tutors, topics for discussion in tutorials and conferences etc.

The Weekly Bulletin has now taken over from the weekly fax. It differs only in name and method of distribution. Whereas the Weekly Fax was always sent out by fax, the Weekly Bulletin is either faxed or E-mailed where students have E mail facilities. For large cohorts of students employed in one organisation, such as the ATO it makes more sense to send the Bulletin to a central point in the organisation and for it to be redistributed once it has passed through the gateway. This is the approach adopted in the ATO and on receipt the Weekly Bulletin is placed on a central electronic notice board that all ATO students can read from their workstations. Copies of the bulletin are also posted in Learning Centres on conventional notice boards and some Learning Centre Coordinators even distribute copies to individual students, where they have access to staff pigeonholes or postal addresses. The Weekly Bulletin is a vital means of communication and great stress is laid on the need for students to read it every week. Except on public holidays, it is always distributed overnight on Monday nights and this fact is publicized in order to encourage students to read it on Tuesday (usually from mid-morning).

Once again, this means of communication is expensive and resource intensive and a preferable means of giving notices would be to make use of a Home Page notice board, leaving the students themselves to make an effort to read it. Steps are being taken to implement such a system.

Audio Conferencing

Whereas ATAX's printed materials are the principal source of subject material for students; the principal teaching medium is the audio conference. Each of ATAX's 26 Learning Centres is equipped with two or more conference telephones and venues for their use. The typical venue is a conference or tutorial room equipped with a central table and chairs. These conference telephones are used by students to join audio conferences in their subjects. A group of students in a Learning Centre will dial into a Sydney telephone number at a prearranged time and date. The Sydney telephone number is an electronic bridge which enables the lecturer in a studio in Sydney to hear and be heard by up to 36 conference telephones.

It has been established that the maximum number of students for a viable (in an educational sense) audio conference is about 35. Thus many audio conferences are repeated, often more than once, in order to provide all students in a particular subject with an opportunity to join an audio conference that is not too large. The ATAX bridge enables the students and the lecturer to hear and be heard, thus it is proper to question and respond to students. The audio conference is used to explore concepts and issues and to discuss the subject matter in the study guide, in an effort to assist understanding of the materials. Although some protocols are necessary, audio conferences are typically, relaxed and interactive. Students are encouraged to question and debate, and in particular to debate with one another. Lecturing over the audio conference system has been proved to be less than useless as a means of instruction. As the audio conference is of 90 minutes duration, most students cannot concentrate long enough to absorb material learned in such a passive way. It is essential that students talk in audio conferences at least as much as they listen.

The advantages of audio conferences are many. They are not as effective as face-to-face lectures, but they are infinitely preferable to no interaction with the lecturer at all, which is the alternative at present. Because they are frequently run more than once, audio conferences provide a degree of flexibility which conventional lectures on a university campus do not. Students can arrange with the lecturer to attend an audio conference other than their scheduled one. By this means they are able to fit their conferences around their work schedule. Flexibility is also provided, where possible, to students who cannot leave their offices in order to attend at a learning centre for their scheduled conference. Although students are encouraged to physically attend learning centres so as to provide them the opportunity to interact with other students and establish peer group communication, they can arrange to join the audio conference from their desks at work, or even from home. Students have been known to phone in from holiday locations when they have taken leave from work during the academic session, or from remote 'bush' locations when performing service in the Army Reserve. More importantly, this flexibility enables students far from learning centres to join a group of fellow students without incurring the significant opportunity cost involved in travel. Many a country solicitor has managed to upgrade his or her taxation law by means of this facility.

Audio conferences are also tape recorded. One tape is kept in Sydney and copies are distributed to 'remote' students who are unable to attend audio conferences. (Remote students are those located more than 300 km from a learning centre.) Students in the learning centres are also provided with tape recording facilities to enable them to keep a record of the audio conference. Many use this for revision purposes. Local tape recording of audio conferences also caters for students who have missed the conference for reasons of work or illness. The popularity of tape recordings of audio conferences has the potential (which is occasionally realised) to become an administrative nightmare. With up to 50 conferences a week being taped, the copying and distribution of tapes is extremely onerous for ATAX administrative staff. Strict rules preventing abuse of the recording facility have to be maintained and regular 'crack-downs' are necessary to keep the demand for tapes,

on spurious grounds, in check.

Audio conferences, although an extremely simple and effective low technology device are not without their problems. It is important that the lecturer is able to handle the group and can stimulate interaction and debate. This usually involves some years of experience and learning at the side of colleagues who are better teachers. For new staff, actual training is required. Technical hitches also occur. Sometimes the lecturer has to cope with crossed lines, unsolicited voice mail interruptions and even, occasionally, piped music finding its way onto the telephone line from the PABX in a particular location. The Australian telephone infrastructure can also cause problems. Not all telephone cabling in Australia is optic fibre and some copper 'land lines' may be in the loop in a particular audio conference. The redirection of calls when there is congestion of lines can also affect performance. This can result in calls between Melbourne and Sydney (a distance of 1,000 km) being diverted via Perth (a distance of 9,000 km). This can result in echo, interference and delay. Students require a little training in the optimum use of the conference phones in order to avoid feedback, extraneous noise, boom and crackle. Even 'tannoy' announcements in learning centre locations, local building operations and whispered discussions can disturb an audio conference.

Audio conferences are, nevertheless, an extremely cost effective and educationally effective means of teaching, and few other means could be better suited to the Socratic style of discussion of the law.

Data audio conferences

During 1995 ATAX introduced data audio conferencing facilities. These facilities are still available for the use of students and staff who have the necessary drive and time to make them work. The latter remark reveals the fact that they have not been entirely successful. Data audio conferences are used in those subjects which the lecturer believes would benefit from a visual content. Based on technology adapted from technology used in dealing rooms in the financial sector, the conferences provide students in learning centres with a medium akin to a white board or overhead projector on which the teacher can display diagrams, text etc.

The data 'slides' are displayed on the screen of a computer (PC) in the learning centre. The teacher's PC and the students' PCs are linked by modem and the interface between them is managed using 'Smart2000' software. The fact that they are linked separately from the audio conference system means that voice and data are not required to pass via the same connection and this improves the communication time. Audio conferencing provides easy 'real time' voice communication. Data audio conferencing is supposed to provide similar visual communication. It has not done so thus far. There are inevitable delays in the transmission of data to the various learning centres so that the conferences can be punctuated by delays in the relaying of data.

Data audio conferences are interactive, and the software allows the teacher to hand over control of an image on screen to another location. The students in that location may write (using a type of mouse which allows hand written text), type or highlight on the shared image. Different colours may be made available to different locations so that the particular contributor of a comment can be identified by the colour. What has been contributed can be seen in all locations within several seconds of being written or drawn. The teacher may, similarly, contribute to a slide by highlighting or adding text during the conference. This is particularly useful where the teacher wishes to build a picture, or emphasise points whilst the conference is in progress. Just as contributions to slides can be made during the conference, they can also be changed or erased whilst the conference is in progress. Changes and erasures, like comments and additions to slides, become visible in all the locations within several seconds to a few minutes. The slides used in a data audio conference can be saved and/or printed in the learning centres during or after the conference.

The use of data audio conference equipment requires the observance of a number of protocols. (Such as not contributing to displayed slides or interfering with slides until invited.) The Smart2000

software is not particularly complicated and its use is prompted by legible and understandable windows and icons. Nevertheless, training is required for students to use the data audio conferencing equipment and even the computer literate experience occasional difficulties with the software. The need to run a training session prior to a series of data audio conferences is a constraint on their use in the program. This constraint is compounded by the more extensive training required of staff teaching with the system.

Neither of these constraints, however, compares with the immense difficulties originally encountered when the system was installed. It was discovered that the PCs at ATAX's Sydney base and the Learning Centre PCs did not communicate at all well. There were various causes of incompatibility:

- Incompatibility between modem cards in the various machines, principally those in the teachers' PCs and those in the Learning Centres;
- Communication errors arising from the different configurations to be found in the communicating PCs;
- Occasional band width problems encountered in the national telephone network and the national network utilized by the Australian Taxation Office in certain locations.

Many of these have been resolved but there is still some resentment on the part of students and staff which has stigmatised the data audio conference system. It may well be that now technology has advanced an alternative visual interface can be developed, perhaps by using the, apparently, improved CUSeeMe software or similar options.

Tutorials

At the commencement of the ATAX program it was recognised that some students, especially new undergraduate students, might find it difficult to cope with distance education. Accordingly a limited number of early undergraduate subjects, particularly Law subjects, provide students with the opportunity to attend tutorials. Normally these are of the usual 90 minute duration and usually three are offered per subject, per semester. Ideally, these are run by a tutor, hired by ATAX and held at a central location in a city or region which allows the maximum number of students to attend. Tutorials will not be arranged for locations with fewer than eight students.

Where tutorials are not run face-to-face, an electronic alternative is provided. This may be a tutorial run from a learning centre, or from ATAX, using the audio conference bridge. On occasion, it will be a face-to-face tutorial which other students may join by means of the audio conference bridge or a telephone call.

The value of tutorials is well known. Tutors provide a more personal and interactive environment because the groups are smaller than lecture groups. They also provide students with an alternative to their usual lecturer. This is extremely valuable where their learning problems involve a communication or personality problem related to the lecturer. Some students and teachers simply do not get on.

At ATAX, there are, however problems with the running of tutorials. One is that whereas employees of the ATO are provided with study support in the form of time off to attend tutorials, few other employers provide such support. There is sometimes tension between the two groups of students regarding a convenient tutorial time, in working hours or not. Where face-to-face tutorials are not offered and students attend electronic tutorials, there is inevitably some question as to whether the alternative being provided is genuinely helpful. If one of the purposes of a tutorial is to provide weaker students with academic support face-to-face, little is achieved by running tutorials electronically. A further major concern regarding tutorials is the inequity for many students who, because they are enrolled in a sparsely populated location, find that no face-to-face tutor is provided

for them, whilst their fellow students in the subject may have a face-to-face tutor because the numbers in that competing location justify the appointment of one. Finally, a concern regarding tutorials which occasionally arises is the quality of the tutorial teaching. As there may be several tutors in several locations active management of tutors is required to ensure an even quality of delivery to all students. Fortunately, there have rarely been complaints about tutors and the performance of tutors, but supervision of teaching staff who are so far away from ATAX's home campus will always be difficult.

There are several strategies to ensure a reasonable level of service by tutors. One is to ensure that communication with tutors is sound and frequent. The more involved tutors feel, and the more often they hear a consistent message regarding tuition standards, the more they will conform. Such communication has been done in the past by means of audio conferences with the tutors prior to their tutorials in order to make them feel part of a team. Another strategy along these lines is to correspond frequently and clearly with tutors. The key to high quality tuition is clear communication of the lecturer's views and expectations and frequent opportunities for tutors to discuss the teaching with the lecturer. This involves a heavy administrative load for the lecturer in the subject and may require frequent phone calls and so on. It is, however, essential if appropriate tuition is to be provided by the tutors.

Postgraduate Classes

Whereas early undergraduates are provided with tutorials in their subjects, some face-to-face contact is provided for postgraduate students in the form of full day workshops held in their home locations by the teacher of the subject. These Postgraduate Intensive Regional Classes (PIRCS) are run in all locations with more than ten students who have committed themselves to attending the PIRC. Very occasionally where student numbers are low but close to viable, students from other subjects are permitted to attend at a small fee in order to subsidise the cost of the teacher's airfare and thus enable the PIRC to be run. PIRCS are very popular with students. They are, however, extremely resource intensive and require extensive preparation and planning by the lecturer. They usually involve a series of case studies which are sent out to students in advance to allow preparation for the day. During the workshop the students are usually broken into groups and after a preliminary lecture or other introduction by the teacher they are required to apply the law to the case study. These break out sessions are facilitated by the lecturer. Thereafter the break out groups are reconvened in a plenary session and the whole group contributes their ideas to a solution of the problem in the case study. This is repeated over from 4 to 6 case studies. At the end of the workshop written guides to the resolution of the case studies are distributed. The lecturer moves on to another venue overnight and the process is repeated. PIRCS are commonly held in Sydney, Melbourne and Brisbane because the concentration of student numbers in those locations is high. PIRCS are less frequently held in Adelaide and Perth and PIRCS in Hobart and Townsville are often only possible if extra resources are found to pay for the lecturer to travel to these locations. Every effort is made to find those resources and to ensure that the students in those locations do not feel abandoned.

If there is no PIRC in a particular location, alternative tuition is provided. This takes the form of a supplementary audio conference, covering the material dealt with in the PIRC and a video tape of the Sydney PIRC which is distributed to all who were unable to attend the PIRC in their area or who had no PIRC in their area. Even these video tapes are welcomed by students, although it is clear that they prefer face-to-face PIRCS. Some lecturers have been known to attempt to address equity concerns by holding no face-to-face PIRCS and to run a PIRC electronically by audio conference from Sydney. This can be done, although it requires more planning and better organisation by running the oral part of the PIRC over the audio conference and faxing the visual part to the learning centres and having the break out groups fax in written solutions to the case study problems. This has generally proved to be effective and it might fairly be said that it 'does the job', but it has proved to be tiring for students and is unpopular. Some have remarked that they prefer to watch a video tape of a PIRC than attend a PIRC by telephone in this way.

Other teaching resources

ATAX is presently developing other teaching resources for students. What has been described thus far has concentrated on the formal delivery mechanisms associated with structured learning from materials provided. ATAX also provides students, especially post graduate students, with the opportunity for self directed study and research. All subjects taught at the Masters degree level require the completion of a research paper, and some Masters subjects are entirely research based. This means that the students in these subjects require access to good library resources. A number of strategies are available for this.

The University of New South Wales Dial-Up Service and the Australasian Legal Information Institute.

All students at the University of New South Wales, including ATAX students are entitled to make use of the University Dial-Up Service (UDUS). Details of this service can be found at <http://www.disconnect.unsw.edu.au/misc/general.html> The service provides cheap access (at the highest rate - 70c per hour, plus telephone tolls) to the Home Page of the University and to the Library Catalogue of UNSW and via links, to other libraries. This enables students to run some library searches from home or office. Access to UDUS provides students with access to the Internet and thus to the Australasian Legal Information Institute (AUSTLII) at <http://www.austlii.edu.au/>. AUSTLII is a joint project of the University of New South Wales and the University of Technology Sydney and is an extremely comprehensive, free, database of resources for legal study. It contains nearly all Australian legislation and law reports as well as useful links to government, educational and sundry relevant sites in Australia and elsewhere. It is of interest to this audience and, perhaps, a testimony to the value of the site that it is to be found amongst the research links on the Law Library of Ireland's Home Page. This is a developing resource and although many students plainly use it, many more have still to acquaint themselves with it.

The major bar to the widespread use of UDUS and the opportunities it affords is the fact that, even where students have the necessary technology, the UDUS service requires a telephone call in to the University server. For students in, for example, Perth which is 3,278 km away from campus the cost of a long distance call is discouraging. Some students overcome this problem through the use of an Internet Service Provider of their own. Equity issues, again, begin to creep in and it is the writer's view that positive steps are required to ensure widespread access to the Internet for all ATAX students. At present the option being explored is the provision of a standalone PC with Internet access in every Learning Centre for students' use.

The product of the ATAX approach

The ATAX program has been running since 1991 and has now had graduates from all its programs. It is highly regarded as a distance education provider and as a provider of taxation research and expertise. It is the program of choice for staff of some of the major international professional consulting firms and it is the only university taxation program for which the ATO will now provide study support for their staff who are students. It has had the opportunity to stage several conferences and it has consulted widely in its establishment and development. The result is that it has started to attract Australian students studying outside Australia, as well as some foreign students. Students study ATAX subjects in Papua New Guinea and in New Zealand, and further afield, in Singapore, Egypt, and Europe. Few of these constitute foreign students recruited overseas, most are Australians who are overseas for various reasons and who have chosen to study Australian courses whilst away from home. The largest cohort of foreign students who have been instructed in an ATAX subject has been a group of students from the New Zealand Inland Revenue Department who, in 1997, enrolled in the ATAX subject 'Tax Policy'. The generic nature of the subject lent itself particularly to study by overseas students. The content of the subject is not particular to local revenue laws. This meant that the materials used by the students required little amendment and only one module was different for

New Zealand students enrolled in the subject. This required a different examination to be set. The New Zealand students were not linked into the ATAX bridge because of the cost of international calls, it proved more economical to provide local tuition in New Zealand using a contract teacher and for ATAX's teacher of the subject to include some face-to-face tuition during a study visit to New Zealand during the teaching term. It cannot fairly be said that the experience of the students was entirely pleasant, on account of a number of administrative issues which plagued their enrolment. Educationally, however, the experiment worked well and it proved relatively easy to provide students in a remote jurisdiction with tax education in this way. The lesson to be learned from the experience is the importance of a sound administrative base in any venture of this nature. Administrative difficulties are exacerbated by distance and the educational experience can very easily be spoiled by incorrect fee notes, unanticipated requests for fees, unexpected assessment deadlines etc. All of these were encountered with the contingent of New Zealand students but all were resolved. The ideal is to anticipate such problems so that they never arise.

Opportunities

What opportunities does this suggest may exist for other projects for ATAX and for other jurisdictions? It would appear that the ATAX model, appropriately adapted, lends itself to similar projects. Without the constraint of having to move students around so that they can attend lectures and other activities on university premises, it is possible to provide high level legal education in a location which is convenient to the students. It is possible to do so by a number of means. An internet site might be used as a location for students to visit and collect messages, or even materials. They might also use the site to search the university's resources. Interaction with teaching staff can be arranged in a number of ways:

- visits by staff;
- contracting local staff; and better still
- interaction electronically, using a telephone system.

In relation to the last option, even the cost of calls ought not to discourage the use of the telephone as a teaching medium. Discount providers already reduce the costs and such costs dwindle in significance when compared with the savings in infrastructure in not having teaching premises, and savings in opportunity costs and direct cost of travel.

Modern technology now provides the opportunity to transmit sound and image quickly, clearly and reliably. This lends itself to centralising teaching and research resources and making them available to remote locations. The possibilities in legal education seem endless. A subject of value to both Irish and UK students such as jurisprudence, for example, or international law, could be offered at two or more institutions making use of the expert teacher at only one of them. The expert's views could be made available to many more students in this way. Essential reading and other guides could be placed as a central resource on a server and accessed via the Internet.

It must be accepted that this approach will not be appropriate for all subjects as only those of cross jurisdictional value would suit this approach, but the benefits of using such an approach in some subjects would be considerable.

Options for the future

After a successful period of establishment and rapid growth ATAX has reached a point at which it must prepare itself for the next period of technological change. Readers of this paper will be aware of the vast change in technology that has taken place since ATAX was being planned in 1990. A number of options are being considered, some are already being implemented.

Materials distribution

The issue of the cost of materials distribution has been the subject of a review by ATAX's Management Committee and the possibility of providing readings and materials in electronic format is being investigated. The cost of producing and distributing materials on CD ROM may be lower than producing and distributing them on paper, especially when courier charges and staffing costs are taken into account. Some tax publishers in Australia are already offering customised packages of their own electronic format materials which might be adapted for ATAX's needs. It may not even be necessary to distribute CD ROM materials in the conventional way as they may be provided online using a central server facility, or if call charges become an issue, a number of mirror sites around the country. A pilot project using tax material online has already been run in the Law School at UNSW. Electronic materials provided the added facility of hypertext links and, if appropriately designed, afford opportunities for even greater interactivity.

The full and proper development of the ATAX Home Page on the internet will eventually provide a central additional resource for ATAX students obviating the need to distribute the Weekly Bulletin and even removing the need (as suggested above) to distribute materials. It will also provide a central communication centre for students to communicate with one another as well as with the institution.

Video Conferencing

At the inception of ATAX it was believed that modern innovations in video conferencing provided the ideal means of reaching large numbers of students in distant and widely dispersed locations. This has not proved to be the case. At ATAX's inception, and even now, video conferencing has proved unnecessarily expensive and difficult to arrange, requiring students to move to a video conferencing site and involving high costs. These costs have come down, however, and further experiments have been run with video conferencing using the relatively inexpensive facilities of the Commonwealth Administrative Appeals Tribunal to run the PIRCs in the subject Tax Policy in the second half of 1997. Not all staff and students are convinced of the need for video conferencing now an effective audio conference format has become well established, but there can be no doubt that the visual component in our conferences adds a valuable extra dimension. The falling cost of video conferencing may well make it more attractive within a few years. In addition improvements in CUSeeMe may provide the necessary visual link between students and teacher even more easily. Finally the Data audio conference infrastructure which has already been established ought not be abandoned yet, as improvements to modem compatibility and telecommunications have been made and continue to be made. If anything, one of the challenges facing ATAX will be the choice of the right video technology to adopt in a world of rapid change in this technology.

Conclusion

ATAX has made mistakes in the past and as an innovator in its field will no doubt continue to do so. It has shown what can be done, however, and I believe that it has had a unique educational and research experience which might well serve as a model for British and Irish Legal Education, or indeed any institution which seeks to combat the tyranny of distance with a program designed to bring remote students together and to provide a consistent quality educational resource over a large distance. It has been fortunate to have a committed industry partner and, particularly, access to that industry partner's free learning locations and to the assistance of the industry partner's staff. Without the commitment and continuing support of the ATO, ATAX's story might have been very different and full credit must be given to the ATO's contribution to the program. To a large extent ATAX's success is not attributable to the technology used, so much as it is attributable to the institutional commitment to succeed. Once that commitment is in place, modern technology provides the means to realise that commitment. This is the most important lesson afforded by ATAX's experience.

Notes

1. Y Grbich, A J Bradbrook, K Pose, Revenue Law Cases and Materials Butterworths, Sydney, 1990.
2. See for example 'Export Taxes to go'. Australian Financial Review, Wednesday, 22 Oct 1997.
3. It is intended that the term 'educate' should imply something more than training in current aspects of taxation law. 4. Students in an ATAX degree are intended to question assumptions and challenge the accepted view.
5. UNSW, ATAX Handbook, 1998, page 7.
6. UNSW, ATAX Handbook, 1997, page 7.
7. Some States have not yet provided their legislation for inclusion.
8. At <http://indigo.ie/~gregk//links.htm>.
9. Self education expenses are tax deductible in Australia, and this probably assists students in meeting the cost of such services.
10. Using funds from the amenities levy, (borne by all ATAX students whether they are in Sydney and thus have access to UNSW amenities, or not!).
11. This has been established from anecdotal evidence of students, and from some partners of certain firms.
12. To place this claim in perspective it should be borne in mind that ATAX's seed funding has been contributed by the ATO.
13. This was run in 1997 by Ass. Prof. P. Burgess using products of the publisher, Australian Tax Practice.