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The Australasian Law Teachers Association (ALTA) is a professional body which represents the interests of law teachers in Australia, New Zealand, Papua New Guinea and the Pacific Islands.

Its overall focus is to promote excellence in legal academic teaching and research with particular emphasis on supporting early career academics, throughout Australasia, in the areas of:

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- (b) Curriculum refinements and pedagogical improvements in view of national and international developments, including law reform;
- (c) Government policies and practices that relate to legal education and research;
- (d) Professional development opportunities for legal academics;
- (e) Professional legal education and practices programs.

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Edited by Professor Michael Adams, Professor David Barker AM and Ms Katherine Poludniewski

**ALTA Secretariat**  
PO Box 222  
Lindfield NSW 2070  
AUSTRALIA  
Tel: +61 (2) 9514 5414  
Fax: +61 (2) 9514 5175  
[admin@alta.edu.au](mailto:admin@alta.edu.au)  
[www.alta.edu.au](http://www.alta.edu.au)

## **THE USE OF TECHNOLOGY TO CREATE AN INTERACTIVE LEARNING ENVIRONMENT FOR INTERNAL AND DISTANCE STUDENTS**

DEBRA WILSON AND FEONA SAYLES\*

### **I INTRODUCTION**

The Business Law Group at Massey University offers both internal and distance courses for non-law students, typically those studying for qualifications in Accounting, Property Valuation, Sport or Criminal law. There are two identifiable challenges arising from teaching these courses. First, Massey students have a variety of different backgrounds and skill levels. Although a large proportion of students have enrolled direct from high school, there are also a growing number of mature students enrolling to build on their practical experience. In addition, Massey attracts a significant number of students for whom English is not their first language. Second, many of the business law courses are compulsory for non-law qualifications, and there is therefore the potential for law to be viewed as secondary to a student's primary study interest.

The ability to address these diverse skill levels and motivational needs is often difficult within today's universities. Resource and curriculum constraints which restrict teaching space and time are not uncommon, and as a result opportunities to provide students with different learning experiences are often reduced. The Business Law Group has attempted to address these issues by developing an interactive learning environment, consisting of virtual classrooms and assessment tools. While the project is still relatively new and an ongoing experiment, initial reports from students and the experience of the teachers

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\* Both authors are Lecturers in Business Law, School Of Accountancy, Massey University. The authors would like to thank Professor Fawzi Laswad, Head of School of Accountancy, Massey University, for his support and enthusiasm for the virtual classroom project, and also Mr Jonathan Higgs and Mr Andrew Brown, Computer Technicians, for their technical guidance and support.

involved indicate that the use of technology can be highly beneficial in the teaching of law to both internal and distance students.

This paper discusses the development of the interactive learning environment. It begins by describing the teaching theory that provided the impetus for the development of a virtual classroom, and teaching objectives identified for the project. It then then discusses the tools used in its creation and finally considers the response of both students and teachers to the technology.

## **II THEORIES OF TEACHING**

Learning is the process by which new knowledge is obtained. The durability of the knowledge gained will depend on whether students have engaged in deep learning or surface learning. Surface learning involves the student reducing what is being studied into a series of unconnected facts which are then memorised for recall during a specific event, generally an examination.<sup>1</sup> Since the information does not exist in a meaningful context it is rapidly forgotten.<sup>2</sup> In contrast, deep learning achieves the integration of 'new' knowledge with 'existing' knowledge. Due to this integration, knowledge gained through deep learning is generally retained as lasting knowledge.<sup>3</sup> One of the mechanisms employed to achieve this integration is active learning, as this process allows students to guide the connection between new and existing information. Success of active teaching can largely depend on whether students are motivated towards study.<sup>4</sup>

### *A The Methods of Teaching - Active vs Traditional*

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<sup>1</sup> John Biggs *Teaching for Quality Learning at University* (2<sup>nd</sup> ed.) (2003) Buckingham:Open University Press.

<sup>2</sup> Ibid.

<sup>3</sup> Graham Gibbs, 'Improving The Quality of Student Learning Through Course Design', in Ronald Barnett (ed) *Learning to Effect* (1992) 149

<sup>4</sup> Noel Entwistle; Don Skinner; Dorothy Entwistle; Sandra Orr 'Concepts and Beliefs About Good Teaching: An Integration of Contrasting Research Areas, *Higher Education Research and Development*, (2000), 19(1), 5-26

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The traditional model of teaching involves the transmission of information from teacher to student. Pratt<sup>5</sup> describes the role of the teacher in this model as being to ‘accurately present content and help learners accurately reproduce that same content’. Learning is considered to have occurred if the required quantity of information has been imparted to the students.

This approach has been criticised on the basis that it promotes memorisation and recall rather than reflection and analysis.<sup>6</sup> The role of the student is that of a passive observer in the learning process, and as a result the student may fail to incorporate the new information into their existing knowledge, classifying it as information required solely for the specific institutional purpose of assessment rather than as a skill relevant to their chosen career. Although students may achieve a passing grade in a course, Gibbs<sup>7</sup> describes a ‘considerable body of evidence’ that students using this approach demonstrate a lack of understanding as to key concepts associated with the topic. The ability to “remember” material does not necessarily mean that the information has been “understood”.

For understanding to occur the student must be an *active* participant in the learning process so as to facilitate student exploration of knowledge.<sup>8</sup> The role of the teacher is therefore as described by Braskamp<sup>9</sup> to be the ‘guide on the side’ rather than the ‘sage on the stage’. This exploration of knowledge ought to involve a level of negotiation between student and teacher as to which learning methods would be the most effective.<sup>10</sup>

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<sup>5</sup> Daniel Pratt, *Five Perspectives on Teaching in Adult and Higher Education*, (1999) 40.

<sup>6</sup> Biggs give the example a history student memorising dates but having no understanding as to the significance of the different events. John Biggs *Teaching for Quality Learning at University* (2<sup>nd</sup> ed.) 2003, Buckingham:Open University

<sup>7</sup> Graham Gibbs, ‘Improving The Quality of Student Learning Through Course Design’, in Ronald Barnett (ed) *Learning to Effect* (1992) 149, 151.

<sup>8</sup> Paul Ramsden *Learning to Teach in Higher Education* (1992), London:Routledge, p. 113

<sup>9</sup> Lawrence Braskamp, ‘Towards A More Holistic Approach To Assessing Faculty As Teachers’, in Katherine Ryan, (ed) *New Directions in Teaching and Learning* (2000) 19, 20.

<sup>10</sup> Patrick Ainley, ‘Teaching In A Learning Society, The Acquisition Of Professional Skills’, paper presented at the ESRC *Teaching and Learning Research Programme First Annual Conference*, University of Leicester, November 2000.

This negotiation should include recognising differences in learning styles, due to the fact that the ability of the students to understand information may depend on the method in which the information is given. Some students will process information more easily if it is written, others may receive more benefit from verbal explanations. The process of integrated learning should therefore ‘contain different ways of encouraging students to learn and different sequences of material, so that individual differences between learners can be fitted into the general goal of helping all students to change their understanding.’<sup>11</sup> Essentially, students must be given opportunities that best allow for an integration of their own existing knowledge base with the new knowledge being provided.

While active learning is desirable to achieve deep learning, the traditional teaching model is still recognised as having value. If students do not feel that they have a grounding or base knowledge in a subject, they will be reluctant to enter “unknown territory” and engage in deep learning. Traditional teaching methods are therefore still necessary in order to facilitate this base knowledge, but for maximum effectiveness ought to consist of more than mere transmission of facts. Brookfield<sup>12</sup> suggests that to achieve this, lectures could include both the teacher’s own reflections and also alternative views on a subject. Dinham<sup>13</sup> advocates the use of mock quiz questions, demonstrations and “one minute papers” to engage the student while conveying the required base knowledge.

### *B The Expectancy-Value Model Of Motivation*

The Expectancy-Value model of motivation<sup>14</sup> suggests that people will be motivated to engage in behaviour directed towards a particular goal if the goal is valued and there is a

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<sup>11</sup> Paul Ramsden *Learning to Teach in Higher Education* (1992), London:Routledge

<sup>12</sup> Stephen Brookfield, ‘Adult Learning: An overview’, In *International Encyclopaedia of Adult Education and Training* (2<sup>nd</sup> ed.) (1996).

<sup>13</sup> Sarah Dinham, ‘What College Teachers Need to Know’, in Robert Menges and Maryellen Weimer (eds) *Teaching on Solid Ground* (1996) 297-313.

<sup>14</sup> Marilla Svincki, *Learning and Motivation in the Postsecondary Classroom* (2004).

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perception that they will be successful in achieving this goal.<sup>15</sup> The first element of this model, value can be increased by making a topic relevant, and more interesting to study.<sup>16</sup> One means of creating interest is by varying the methods in which materials are presented. As an example, Svinicki<sup>17</sup> found that students studying psychology enjoyed reading textbooks which contained pictures, graphs, stories and other visually appealing additions. The use of visual aids is seen as particularly beneficial to Generation Y students,<sup>18</sup> who are primarily visual learners and may achieve higher results if provided with visual material and opportunities to solve problems with hands-on activities.<sup>19</sup>

The second element of the model is expectancy of success. If students do not consider that they are capable of achieving a task, they will be less likely to engage in the type of activity needed to obtain success. When tasks are perceived to be difficult, the way in which a student reacts will likely depend on their own beliefs regarding their competency. Students with a high self-competence rating are more likely to persevere when faced with difficulty and are also more likely to initiate learning activities and strategies that will achieve the goal.<sup>20</sup> Students with a lower self-competence rating are more likely to give up and thereby create a self-fulfilling prophecy as to their lack of ability to achieve the task. One of the influences on student concepts of self-competence is prior success, which is measured by previous grades<sup>21</sup> or previous success in the area

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<sup>15</sup> It has been shown in a recent study that expectancy and value can contribute to the total number of credits gained by students and is linked to deep learning. See Marjon Bruinsma, 'Motivation, Cognitive Processing And Achievement In Higher Education', *Learning and Instruction*, (2004) 414 549-568.

<sup>16</sup> Bruinsma, *ibid*, showed that students who found a subject interesting were more likely to engage in deep learning strategies.

<sup>17</sup> Marilla Svinicki, *Learning and Motivation in the Postsecondary Classroom* (2004).

<sup>18</sup> Generation Y is the name given to students born between 1980-1994.

<sup>19</sup> Angela Weiler, 'Information-Seeking Behaviour in Generation Y Students: Motivation, Critical Thinking, and Learning Theory', *Journal of Academic Librarianship*, (2004) 31(1) 46-53.

<sup>20</sup> Refer to the following studies; Anouke Bakx et al 'Personality and Individual Learning Theories: A Cross Sectional Study in the Context of Socio-Communicative Training', *Personality and Individual Differences*, (2002) 32, 1229-1245, Marjon Bruinsma, Motivation, Cognitive Processing and Achievement in Higher Education, *Learning and Instruction*, (2004), 414, 549-568

<sup>21</sup> This factor and its association to success in business law was demonstrated by Paul Frantz & Alex Wilson, 'Student Performance in the Legal Environment Course: Determinants and Comparisons', *Journal of Legal Studies Education*, (2004) 21(2) 225-240.

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of study. If students are unfamiliar with the area of study they should be provided opportunities to build confidence and increase their levels of actual success.

Overall, the aim of teaching ought to be to provide a learning environment that recognises differences in learning styles and allows students to interact in a way that results in an increase in confidence regarding their own abilities.

### **III CHALLENGES IN TEACHING IDENTIFIED BY THE BUSINESS LAW GROUP**

Many business students are required to study certain law topics as a compulsory component of their degree. The Business Law Group has identified several challenges in teaching these students. First, these students are generally unfamiliar with law, and it is therefore necessary to provide a base legal knowledge, and to then build student confidence in discussing legal concepts. In order to achieve this, it is necessary to recognise that business students are diverse and have different learning styles and levels of English language competency. In addition, as law is not the primary focus of study for these students it may be perceived as having less value than other subjects. Finally, distance students have the additional problem of conducting their study in relative isolation with few opportunities to interact with others. To meet these challenges, the following teaching objectives were formulated:

1. To increase student success by using a variety of learning tools that caters for differences in learning styles and student abilities;
2. To encourage student motivation to continue in legal studies by creating interest in law and by providing opportunities to build confidence through success in learning tasks
3. To encourage active learning by providing opportunities for interaction amongst both internal and distance students

The Business Law Group chose to address these objectives by creating a virtual classroom, an environment where in which students could listen to lectures, view

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PowerPoint displays and discuss the materials with classmates. For distance students, this would provide a second, more interactive, tool for learning.<sup>22</sup> Those students who find it difficult to learn by simply reading the materials assigned can access the content of the internal class lectures and tutorials, attending these from the comfort of their own homes. It was initially thought that a virtual classroom would provide little additional benefit to internal students apart from providing a back-up should they choose not to attend classes, but surveys conducted on internal students showed further benefits, which will be discussed below.

The forms of technology chosen were selected in consultation with the Information Technology department. The teachers involved discussed their teaching requirements with the computer technicians, who then recommended the use of several different tools through which these could be achieved. Some forms of technology are commonplace in the university, for example the Bulletin Boards, while others were only used by a few teachers, for example the online tutorials. In deciding to use particular forms of technology we took note of case studies from our own university and other universities.<sup>23</sup>

To briefly illustrate the process of deciding on the use of technology and the types of technology the Business Law Group was most aware of the objective of meeting the learning needs of distance students. Distance students tend to engage in solitary, self-directed learning<sup>24</sup>. This can lead to feelings of isolation and loneliness, which in turn may result in the student withdrawing from the course of study.<sup>25</sup> Distance students may

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<sup>22</sup> Massey runs a two day intensive contact course for distance students. Students often comment on its value but add that two days is not sufficient time spent in face to face teaching.

<sup>23</sup> Some of the resources included; Matt Bower, Debbie Richards 'The Impact of Virtual Classroom Laboratories in CSE' in the *Proceedings of the 36th SIGCSE technical symposium on Computer science education*, Volume 37 Issue 1 February 2005 and case studies/white papers obtained from the Macromedia site – for example see the case study of Purdue University Available online at [http://www.adobe.com/cfusion/showcase/index.cfm?event=casestudydetail&casestudyid=77328&loc=en\\_us](http://www.adobe.com/cfusion/showcase/index.cfm?event=casestudydetail&casestudyid=77328&loc=en_us)

<sup>24</sup> Stacey Ludwig-hardman, Joanna C. Dunlap Learner support services for online students: scaffolding for success. *International Review of Research in Open and Distance Learning*, 4 (1). (2003) Available online at: <http://www.irrodl.org/content/v4.1/dunlap.html>

<sup>25</sup> Stacey Ludwig-hardman, Joanna C. Dunlap *ibid*.

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also struggle with assessments if there are few opportunities to discuss and test their understanding prior to formal assessments. A failure in assessments may increase the likelihood of students failing to complete their studies. It is therefore important to promote a sense of community for these learners so that they get the support and interaction needed.<sup>26</sup> It was felt that technology allowed the best means of achieving a learning community, as it opened up various interaction opportunities<sup>27</sup>. Research on the use of technology was considered when deciding on the form of technology to be used, for example it was noted that while interaction is considered to be highly important in maintaining student motivation for distance students, there is a need have technology that provided different types of interaction (teacher/learner, learner/learner) in order to allow for a complete learning experience<sup>28</sup>.

#### **IV CREATING THE VIRTUAL CLASSROOM**

Massey University creates a WebCT site for each course offered. WebCT is a learning management system which provides a variety of built in tools that can be used for the teaching and management of students. The virtual classroom constructed using WebCT contains four elements: audio lectures; audio presentations; bulletin boards and online tutorials.

As a means of measuring the level of success of the use of these technologies, students were asked to complete surveys or provide comments at the end of each course using

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<sup>26</sup> Gillian Parkinson and Gillian Forrester 'Mind the gap' : the perceptions and expectations of students' introduction to distance learning in higher education. n 'AARE 2005 International education research conference : UWS Parramatta : papers collection' : [Conference of the Australian Association for Research in Education, 27 November - 1 December 2005]

<sup>27</sup> Maylene Y Damoense. Online learning : implications for effective learning for higher education in South Africa. [online]. [Australian Journal of Educational Technology](#); v.19 n.1 p.25-45; Autumn 2003.

<sup>28</sup> Refer to the study conducted by Liao (2006), where it was shown that learner/learner interaction had little influence on student motivation (flow). It was suggested that this may be occur when learners share the same ignorance about a topic so cannot progress without other forms of contact such as teacher feedback. Liao Li-Fen. A flow theory perspective on learner motivation and behavior in distance education. [online]. [Distance Education](#); v.27 n.1 p.45-62; May 2006. Yet, learner/learner interaction still has value so should form part of the interactive experience – refer to Frank Bernt, Alan Bugbee, [Study practices and attitudes related to academic success in a distance learning programme](#) - Distance Education, 1993 - informaworld.com.

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these technologies. In addition, teachers were able to monitor the success from a more statistical basis, through a comparison of assessment results in courses before and after the virtual classroom was introduced. Where relevant, this paper will refer to both student feedback and assessment statistics.

*A Audio Lectures*

The first element of the virtual classroom consisted of an audio recording of a lecture. It is a simple process to record lectures using a digital voice recorder and then to convert the recording to MP3 format. Students are then able to access a link on the WebCT site, download the lecture and listen to it in their own time. Distance students commented that this was a vital resource, and many internal students have commented that they attended lectures and then listened to the recording again, and that this gave them a deeper understanding of the topic. The value of the audio lectures compared to the audio presentations was that students could use different more transportable media to listen to the lectures (for example an MP3 player), compared to audio presentations that required use of a computer. One student wrote in the survey that 'this makes it easier to go back and double check anything that you might have missed during a lecture'. In one internal class of 68 students, of the 50 responses to the survey 45 used the audio lectures regularly and there was no noticeable decrease in lecture attendance.

*B Audio Presentations*

As a typical internal lecture consists of a teacher discussing the law while displaying key aspects on PowerPoint, the audio presentation is the closest a student can get to attending a lecture without actually being there. The audio presentation takes the audio recording of the lecture and attaches it to a PowerPoint display. Each PowerPoint slide contains the portion of the lecture relating to that slide. The creation of an audio presentation is reasonably straightforward. Microsoft PowerPoint contains in its tools the ability to

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attach audio to each individual slide and then convert the files into one overall display. Both internal and distance students have commented that this is an effective way of being able to quickly locate a particular section of a lecture they wish to revise.

The disadvantages to this are that the display must be viewed on a computer, and cannot be saved. This means that the computer must be connected to the internet throughout the presentation. In the same survey mentioned above, 42 students used this tool regularly. The survey indicated that the most beneficial aspect of this tool was that if a student wanted to clarify one part of a lecture, this could be achieved easily by identifying the relevant PowerPoint slide and accessing only the audio relating to that slide.

In terms of administration, the amount of time and skill required in the creation of the both audio lectures and presentations is minimal, approximately 15-30 minutes per week once the lectures are recorded.<sup>29</sup> Significantly, it has been noticed that with the availability of these additional learning tools, the amount of individual student queries to teachers have decreased. Students take more responsibility for their own learning, and use these tools to attempt to answer questions themselves. In many cases students approach the teacher only for clarification that they are correct in their understanding of the material.

#### *C Bulletin Boards*

The third element of the virtual classroom is the use of bulletin boards, an online discussion forum where students can discuss concepts with other students, or ask the teacher directly to clarify something. This enables external students to network with other people studying the same material, and is often used by internal students to seek opinions of students not in their immediate study group. Although the bulletin board has been utilised for many years at Massey, there has been a noticeable increase in its use following the introduction of the audio lectures and presentations.

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<sup>29</sup> This time is based on three 50 minute lectures per week.

*D Online Tutorials*

The online tutorial is utilised to allow students to interact in real time and apply the law in a practical scenario. The program used is Adobe Acrobat Connect Professional<sup>30</sup> which creates a meeting room in which students can view several pods<sup>31</sup> simultaneously, while listening to and viewing the teacher through the use of a microphone and webcam.<sup>32</sup> The teacher communicates with students through a whiteboard pod in which diagrams can be drawn, a notepad pod in which the teacher can type notes, and a sharing pod in which PowerPoint can be displayed. Students communicate through typing questions in a chat pod or answering minipolls, which a teacher can use to test understanding or seek opinions, for example on whether a legal test in a particular scenario has been met. One advantage of these polls is that responses are anonymous, leading to a high response rate from the class as students will not be identified if they select the wrong answer. The Connect program also allows the session to be recorded and played back at a later date, meaning that students who were not able to attend through work and personal commitments can still access the material.

The response from students is highly positive. Most students enrolled in the courses either attend the tutorial or view it at a later time, and comments received mention the increased understanding following the session and the wish that other distance courses offered this feature.

The program is designed to be user-friendly for teachers, and experience has shown that the challenges in using it arise not from the technology itself, but from the interaction between people who cannot see each other. Students cannot see the teacher's gestures or

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<sup>30</sup> Formerly known as Macromedia Breeze Meeting.

<sup>31</sup> A pod is a small window that appears on the main meeting room screen. Often up to six pods are visible and in use at the same time.

<sup>32</sup> The webcam is an optional tool that the Business Law Group has generally decided not to employ, the main reason being that having an ongoing video display results in disadvantages for students using dial-up internet connections.

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facial expressions, and therefore variations in speech to emphasise points become important. Further, there are no visual clues from students as to their level of comprehension. Instead, the teacher must rely on chat comments or the use of minipolls.

*E Conclusion As To The Effectiveness Of The Virtual Classroom*

Comments from students reveal a high level of satisfaction with the various tools being used. The teachers involved felt that the students were more motivated to learn as a result of the use of different tools. One student commented 'I really like that you are trying to give us all the help possible with this paper. I have never taken a paper that has been so proactive with student's learning.' The willingness of teachers to employ different teaching methods led to an increased motivation by students to learn. The online tutorials, run on Saturday and Sunday mornings to facilitate attendance by external students who often work during the week, were well attended.

The teachers were also able to identify increases in improvements in pass rates, retention levels and grades awarded. The following table shows the overall results for students enrolled in one business law paper in 2006 and 2007.

Year of Study	No. of passes/No. Graded	% of students not completing the course	Grade Average	Point
2006	78.26%	25%	2.02	
2007	92.50%	13%	3.09	

The number of passes to the number graded indicates the number of students who passed as a percentage of students who completed all assessments. The second column represents the percentage of students who did not complete their studies. The third

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column represents the overall grade averages for each class; a higher number represents higher average grades.

The number of students who passed the paper in 2007 increased in comparison to the previous year, and the grades awarded were higher. It is difficult to accurately state that these differences can be attributed to the use of technology as the analysis only considers results over two years. In addition, no formal pre-testing of student ability in the different years occurred. However a review of students records as to prior study did not indicate marked differences in academic ability between students.

The number of students who failed to complete the paper was lower in 2007. This could suggest that technology has assisted with student retention. A number of students commented that the use of technology had 'lessened the gap' and had made them that they were not 'doing it alone.' A sense of isolation can contribute to a distance learner failing to complete studies, so these comments may support the suggestion that the use of technology has assisted in student retention.

The following table considers the average marks for a similar piece of assessment in the same business law paper in 2006 and 2007

Year of Study	First Assignment	Second Assignment	Third Assignment
2006	6.4/10	9.3/15	9.3/15
2007	6.6/10	10.04/15	10.3/15

All assignments for each of the two years were either identical or required students to identify and discuss the same issues and concepts but with some fact scenarios altered. For the first assignment neither group had access to additional teaching in the form of online tutorials or a contact course. For the second assignment the 2006 class attended a contact course where the topic was covered, although only 17% of the students attended this contact course. The 2007 class had an online tutorial which was attended by 12% of

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students, but the recording of the tutorial was subsequently accessed by a majority of the class. The third assignment topic was covered in the contact course for the 2006 and 2007 classes, the students who attended the 2007 contact course was 18%. The 2007 class did not have an online tutorial but were provided access to an audio presentation of the course, which was accessed by the majority of the class.

A comparison of the two years shows a similar average mark for the first assignment, in which both groups were provided the same learning opportunities. The second and third assignments show an increase in the average mark for the 2007 students who were provided with additional learning opportunities, in particular the use of audio as a means of learning. No statistics are available as to the preferred learning styles of students in either the 2006 and 2007 classes so it is impossible to state how many students would have benefited by the additional learning opportunities. Student comments, however, provide some confirmation that the use of audio was beneficial to the students. For example one student wrote: "I wish more lecturers did this for extramural students as I'm an audio learning (*sic*)". Another student wrote: "the recorded classes were a huge benefit to us all. I think that I may have struggled with some of the concepts had they not been verbally explained to me. It's one thing reading it but another being explained in plain speak."

When looking at the 2007 marks, there were slight increases in the average mark that coincided with increases in the number of students attending the tutorials/contact course (12% compared to 18%). This may suggest that the ability to interact with others can improve understanding. Again, student comments relating to the tutorials/contact course appear to support this suggestion as many commented that taking part in the sessions had made "a big difference" and that the discussion was "very valuable". Without pre and post testing of students, however, it is difficult to suggest this with certainty.

As the use of this technology is still in an introductory stage, these figures are regarded as persuasive evidence only, and not statistical proof of the success of the technology.

Combined with student feedback, however, it can be concluded that at this stage of the project the use of technology is of benefit to students.

## **V THE USE OF TECHNOLOGY IN ASSESSMENTS**

The second stage in creating the virtual classroom was to incorporate the use of technology in assessments. This ranges from electronic submission of assignments to the use of self-test functions where students can measure their own understanding without worrying that the teacher will be monitoring their progress, or lack of progress.

### *A Online Submission of Assignments*

Instead of a student submitting a hard copy of an assignment, assignments are now uploaded directly to the WebCT site. Students receive an automated response informing them that this has been successfully completed. The teacher then downloads the assignment, inserts comments and grades, and uploads the assignment back to the student. Copies of both the student submitted assignment and the marked assignment are stored in WebCT, so there are no issues with lost assignments. In addition, the receipt of an electronic copy allows for the use of Turnitin, or other plagiarism detection software. The only additional step in the marking process is to convert the marked assignment into a read-only PDF file, as a safety check to prevent students altering the comments and grades given in the marked copy.

The ability for students to submit assignments electronically has several advantages. For distance students there are no delivery malfunctions (assignments being lost or delayed in the mail). In addition, the time frame between a distance student submitting an assignment and receiving back the marked assignment is greatly reduced. Some students have reported that this time period is reduced by 2 weeks<sup>33</sup> and that the shorter turn-

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<sup>33</sup> Submission of extramural paper assignments at Massey involves the following steps: assignment is placed in mail or faxed to central administrative unit; assignment is logged by unit; assignment is delivered

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around is beneficial to their learning. For internal students, this is simply regarded as a more convenient means of submitting an assignment, particularly for those who work from home computers.

*B Online Self-Testing*

WebCT also includes a test function. Students are able to access a series of multiple choice questions on each topic studied in order to test their understanding. The test can be used either as a formal assessment, or as a non-assessed indicator of progress. It is also useful as a method of highlighting the most important aspects of a topic, which might not be immediately clear to the student. The non-assessed option has been used successfully in one course for two semesters, with positive feedback from students. This version of the test is anonymous and provides instant feedback to direct the students to relevant cases or pages in study guides and textbooks in the case of a wrong answer.

*C Interwrite Personal Response System*

A variant on electronic testing is the use of the Interwrite Personal Response System (PRS). PRS operates through the use of 'clickers' and a 'receiver'. Students are issued with a clicker, a battery-operated device with an LCD display and a keypad that includes numeric, lettered and math symbols, as well as navigation keys. Students respond to multi-choice questions displayed on powerpoint by selecting the appropriate answer and transmitting it to the receiver, which is connected to the computer through a USB port. Once the time limit for answering the question has expired, the PRS software collates the answers, translates the information into graph form showing the percentages of responses for each answer, and highlights which answer is correct.

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to lecturer; lecturer marks assignment; lecturer returns assignment to administrative unit; unit logs receipt of marked assignment; unit returns assignment to student.

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The PRS system has been used by the Business Law Group in two ways. First, it can be used to introduce a topic and create interest in what is being studied. Experience has shown that use of the clickers in this manner quickly focuses students on the particular topic, and creates interest as to why a particular answer is correct. It also gives an advance indication of any prior familiarity with a topic. The second way of using the clickers is as a revision tool, similar to the WebCT self test.

There are some technological challenges associated with the PRS system. First, its use is limited to internal classes due to the limited range of the clickers. Second, the technology is more advanced than the other tools discussed previously. The PRS software is computer specific, requiring the teacher to manually transport a laptop and the clickers to the lecture room. The software also requires a greater investment in time to become familiar with it. Unfamiliarity with the software has led to some negative student feedback regarding lectures being disrupted, so this emphasises the need to have more experience with the software and the time required for its use.

Other student feedback indicated a level of dissatisfaction with the PRS as it represented a change from the traditional teaching methods they were familiar with. For students who have traditional views on learning, the idea of taking a more active role in the learning process may create anxiety.<sup>34</sup> This potential problem can be overcome if the reasons for the approach are explained in a way that satisfies the students<sup>35</sup> so further use of the PRS will include explaining to students not just how the system works, but also why the system is being used.

## VI CONCLUSION

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<sup>34</sup> Graham Gibbs, 'Improving The Quality of Student Learning Through Course Design', in Ronald Barnett (ed) *Learning to Effect* (1992) 149.

<sup>35</sup> Susan Toohey. (1999). *Designing Courses for Higher Education*. Buckingham: Open University Press. p.69),

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The Business Law Group began the idea of creating an online classroom environment with the goal of fostering deep learning, and creating a more interactive learning environment, particularly for distance students. Although still in the early stages of the project, feedback suggests that the objectives developed for the program are likely to be satisfied. The first objective was to increase student success by using a variety of learning tools that caters for differences in learning styles and student abilities. Students have indicated that providing a different method of learning was an advantage to them. International students have also commented on the advantage of being able to re-listen to lectures. Mature students commented that they experienced difficulty in attending contact courses due to work or family commitments, and that the use of technology had helped to compensate for this.

The second objective was to encourage student motivation to continue in legal studies by creating interest in law and by providing opportunities to build confidence through success in learning tasks. It has been observed by teachers that a majority of students found the tools to be useful in their learning, accessing the audio recordings outside regular class time and attending weekend on-line tutorials. There are also indications of higher grades being attained since the introduction of the technology.

The third objective was to encourage active learning by providing opportunities for interaction amongst both internal and distance students. This has been most successful amongst distance students, who feel less isolated. One student who has two young children and is living in a remote area of New Zealand wrote 'for the first time in 22 papers that I have sat, I actually feel that the fees that I have paid for a paper are actually justified and deserved.'

From a teaching perspective, the tools are highly effective in the learning process. The use of different mediums has increased interest in learning law from both internal and distance students. The ability for distance students to hear and participate in lectures and tutorials has reduced feelings of isolation and accommodates different learning styles.

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The use of self-testing tools increases expectancy of success as students are able to gradually build skills by assessing their weaknesses and strengths prior to formal assessments. The use of the PRS works in a similar fashion and also increases interest by provoking discussion about answers. The use of the different tools has allowed students greater interaction with the lecturer and other students, and as a result there have been more active learning opportunities. The increased participation in class and the recourse to recorded material has also resulted in a decrease in student queries outside of lectures. Where previously the teacher would be the first resource for a student who did not understand a concept, students are now taking responsibility for their own learning, and email or WebCT discussion board questions often start with comments like “I have listened to the audio presentation several times but am still unclear...”

From an administrative perspective, the tools are generally straightforward to operate, and are not particularly time consuming. There is obviously an initial familiarisation period for all of the tools, particularly the PRS system, but after a few trial runs, the technology is mostly straightforward and easy to use. The decrease in student queries as a result shows that the use of these technologies is ultimately time efficient. Overall, the Business Law Group’s experience in creating a virtual classroom has been considered a success.