Academic perceptions of the use of Lectopia: A University of Melbourne example

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Since the introduction of the *Lectopia* (*iLecture*) technology to higher education, there has been debate about its relevance and effectiveness as a teaching and learning tool (Fardon, 2003). Anecdotally, students expect to access Lectopia recordings for their revision and for going through points that were made which they missed in lectures. From the academics' point of view, resistance has resulted from the perception that the Lectopia option will reduce attendance in lectures and also the notion that not all lecturing styles can be suitably recorded by an admittedly limited technology. Fardon (2003) also argues cogently that Lectopia is not necessarily conducive to some styles of lecturing. The classifications of different lecturing styles (Brown and Bakhtar, 1988; Behr, 1988; Saroyan and Snell, 1997) as highlighted by Fardon (2003) present a useful tool in determining if particular styles of lecture may be more or less conducive to Lectopia. However, lecturing styles alone do not determine a willingness or resistance to adoption of the technology. Some other reasons may include perceptions of the reliability of the technology, the technology as a pedagogical tool, the engagement levels with students and suitability for the curriculum. This qualitative project examined 11 Academics' perception of Lectopia at The University of Melbourne. The results affirmed some of the benefits and concerns around the use of Lectopia, and highlighted some academic practices in using the technology. Initial results point to some recommendations on incorporating Lectopia technology into the teaching toolkit as well as indicate some future areas of research.

Keywords**:** Lectopia, lecture recordings, pedagogy and technology, qualitative research

Introduction

iLecture, which was recently re-branded as Lectopia in late 2006, was introduced to the University of Melbourne system in late 2002. For the purposes of this paper, the name Lectopia will be used as the data was collected prior to the re-branding. At the University of Melbourne, Lectopia consists primarily of audio recording of lectures (which can then be downloaded from the internet via Quicktime software), supported by Powerpoint slides captures prior to 2007. Visual capture of document camera was only introduced in 2007 in a limited way. Since the introduction of the Lectopia technology to higher education, there has been debate about its relevance and effectiveness as a teaching and learning tool (Fardon, 2003). It is increasingly becoming a part of the technology tool kit in higher education in Australia, and may be seen in some circles as a substitute for podcasts.

Anecdotally, students expect to access Lectopia recordings for their revision and for going through points that were made which they missed in lectures. The results from a student survey on Lectopia suggested that students were engaged in the use of Lectopia in a variety of ways, frequency and purposes (MacKenzie, 2004a). This is not surprising as the Lectopia is meant to be a supplement for the lecture rather than a substitute for the lecture. Some of the main benefits reported in the survey included students being able to make use of Lectopia when they had missed lectures, had work commitments, illness and travel difficulties. However, despite the relatively positive (if varied) response to the use of Lectopia from students, and after accounting for the number of lecture theatres that have recording capabilities, only a small number of subjects at the University of Melbourne offered Lectopia recordings (Teaching and Learning Support Services (TLSS), 2006a).

From the academics' point of view, resistance to using Lectopia has resulted from the perception that the Lectopia option will reduce attendance in lectures and also the notion that not all lecturing styles can be suitably recorded by an admittedly limited technology. Fardon (2003) also argued cogently that Lectopia is not necessarily conducive to some styles of lecturing. Mackenzie (2004b) in a survey of 31 academic staff members found that in relation to the use of Lectopia, there were some initial concerns about attendance levels and possible loss of recordings or equipment failure. Therefore, this project was

interested in the asking the following broad question: “Why are so few academics opting to use Lectopia in their subjects?”

In order to understand why this was the case, it was important to establish what some of the main benefits and concerns were in using Lectopia. From an information systems point of view, there was also the question of why the adoption rate of a relatively simple, low cost and easy to use technology was low.

Benefits of using Lectopia

Fardon (2003) indicated that Lectopia benefited a number of groups of students including those who reside in more remote locations, work part time, are seeking clarification (including students from non-English speaking backgrounds), or for catching up and revising. However, it was unclear if these were important benefits from the academics’ point of view and represented adequate reasons for the adoption of Lectopia. MacKenzie (2004) was able to explore the issue from the academics’ point of view and suggested that Lectopia may benefit students affected by illness or were disabled and found access to face-to-face lectures more difficult. Therefore, this project was interested in exploring more fully what academics perceived to be the benefits of using Lectopia for their students.

Concerns about using Lectopia

The technology of Lectopia
Fong and Hui (2002) acknowledged that the internet is still not the best environment for lecture delivery due to constraints of bandwidth, packet loss (of data and recordings) and delays. Parfenovics and Fletcher (2004) also cautioned that the choice of technology for streaming media in higher education should only be made after due consideration for issues such as cost, training infrastructure and support. Additionally, they suggested that it was important to set procedures in place to support adoption of the technology. However, with the Lectopia, where there is no video recording, the loss of information and delays may not be as much of a concern. The Lectopia is also relatively simple technology that requires minimal cost to departments and training for the academics.

With less than 30% of households in Australia having access to broadband technology and download caps in broadband plans (Australian Bureau of Statistics, 2006), bandwidth may indeed present a problem for students. However, MacKenzie (2004) found that 80% of students who accessed Lectopia did so from home. The remaining 20% of students tended to access Lectopia from the University. Therefore, even bandwidth may not be a huge concern for the University of Melbourne cohort.

Lecturing styles and Lectopia
The classifications of different lecturing styles (Brown and Bakhtar, 1988; Behr, 1988; Saroyan and Snell, 1997) as highlighted by Fardon (2003) presented a useful tool in determining if particular styles of lecture may be more or less suitable to academics. In summary, the literature seemed to indicate that lecturing styles that are more clearly structured, presentation and academic focused and content-driven were most suitable for Lectopia. On the other hand, Lectopia was seen as less suited to lectures where there were multiple visual cues (including the use of overhead projectors and white boards) and where there was a high level of interactivity between academic and students (including discussions, questions and answers, and use of body language and humour). For example, Chu (1999) argued that the issue of interactivity must be addressed if a technology was to be successfully used in education. Fardon (2003) acknowledged that even with more advanced Lectopia technologies that videos the lecture, the resolution would be limited enough that it was unlikely that the visual cues would translate properly for students watching it.

However, perceptions around the technology as a pedagogical tool and lecturing styles alone do not determine a willingness or resistance to adoption of the Lectopia technology. Some of the other reasons may include, the engagement levels with students and suitability for the curriculum. Therefore, this project aimed to explore some of the issues academics at the University of Melbourne might face in the use of Lectopia, in order to understand why the rate of adoption of Lectopia is relatively low.

Methodology

The project used qualitative interviews with academics and a focus group with students as the primary means of data collection. Academics, who have used Lectopia in the subjects, across different faculties were invited to participate in the project. For triangulation purposes, with the consent of academics, their students were also invited to participate in the project. Students were approached at the end of lectures. Interviews with academics lasted between 20 and 40 minutes. The 2 focus groups with students lasted

about 40 minutes. The interviews and focus groups discussion were recorded, transcribed and content analysed. Additionally, the author attended 6 of the interviewed academics' lectures to observe their lecturing styles, in order to discern how the lectures might translate into Lectopia mode.

Sample

There were a total of 11 academic respondents in the study. As shown in Table 1, the academic respondents were drawn from 7 different faculties across a range of academic appointments. Overall, the academic respondents were very experienced teachers and educators. There was a range of low to high end users of information and communication technologies amongst the academic respondents.

Table 1: Academic respondents to the study

	No. of Respondents (n = 11)
Academic Appointment	
Professor	1
Assoc. Professor	4
Senior Lecturer	3
Lecturer	2
Assoc. Lecturer	1
Faculty	
Architecture, Building and Planning	1
Arts	1
Commerce	2
Education	1
Law School	2
Medicine, Dentistry and Health Sciences	2
Science	2
Gender	
Male	6
Female	5
Years of Teaching Experience	
6 – 8 years	3
9 – 15 years	3
Greater than 16 years	5
Use of Information & Communication Technology	
Self-perceived Low End User	2
Self-perceived Average User	5
Self-perceived High End User (Early Adopter)	4

Two focus groups were conducted with 4 students as shown in Table 2. The student respondents came from 3 different faculties and included students from 1st and 3rd years of studies. There were only 4 students who responded to the project.

Interview questions and analysis

Similar questions were asked of both academic and student respondents in the project. The aim of the questions was to discern both academics' and students' experiences of and attitudes towards the use of Lectopia across various disciplines.

- Why have you chosen to use Lectopia?
- Why do (other) academics choose not to use / use Lectopia? What are their reservations?
- For what forms of disciplines/lecturing styles are Lectopia most conducive?
- What are the benefits derived from using Lectopia for academics?
- What are the benefits derived from using Lectopia for students?
- Do you find that you (and your students) have approached the subject any differently with the adoption of Lectopia?
- Do you find students more or less engaged in using Lectopia?
- Is Lectopia a useful technology in assisting your particular style of teaching and communication with students?

Table 2: Student respondents to the study

	No. of Respondents (n = 4)
Year Level of Study	
1st Year	2 (Group 1)
3rd Year	2 (Group 2)
Faculty	
Arts	1 (Group 2)
Commerce	1 (Group 2)
Science	2 (Group 1)
Gender	
Male	2 (Group 1)
Female	2 (Group 2)

The interviews were transcribed from recordings for analysis. From the content analysis (open coding and axial coding), 12 sub-themes were identified which clustered around 3 main themes. Open coding is used to condense data into preliminary categories, giving the sub-themes (Neuman, 2006). Through axial coding, sub-themes were organised and clustered conceptually into 3 key themes at a higher level (Neuman, 2006). The sub-themes were then checked for frequency of occurrence in the interviews with the academics and are reported in the results.

The results from the focus groups with the students were found to yield similar themes to the interview data with the academics. Therefore, the focus group data was not coded separately but used to illustrate some of the sub-themes identified by the academics. Additionally the observations at the lectures were used to further support the findings from both the interviews and focus group.

Results

Content analysis of the qualitative interview data revealed the 3 broad themes of benefits for students, concerns about Lectopia and behaviour around the use of Lectopia, as indicated in Table 3.

Table 3: Results from interviews with academics about the use of Lectopia

Themes and Sub-themes	No of Respondents who reported the sub-theme (n = 11)
Benefits for Students	
Equity Reasons	11
Revision Purposes	10
Ability to Listen to Different Lecture Streams	5
Concerns about Lectopia	
Low Attendance at Lectures	9
Expectation and Pressures from Students	9
Minimal Benefits for Lecturers	8
Substitute for Engagement	6
Behaviour around the Use of Lectopia	
No Significant Changes to Student Performance	8
Appropriateness and Style of Lecture	8
Adding Value for Students Present at Lectures	8
Self-Censorship Behaviour amongst Lecturers	6
Addressing the Microphone	5

Benefits for students

The benefits of Lectopia for students included various equity reasons, its usefulness for revision purposes, and allowing students to listen to other lecture streams where applicable.

Equity reasons
Both academics and students identified a number of reasons why Lectopia would benefit students. These reasons are mainly associated with accessibility to the lectures and include the following; illness, family needs, disability, and work commitments. Additionally, some academics cited minority groups of students who may need to access Lectopia to clarify points in the lecture or may want additional resources. These

may include some international students, students from non- English speaking backgrounds and mature aged students. This view is strongly supported by the students from the focus group. One academic from the Faculty of Arts suggested that:

> Part of teaching is doing what is possible to make student experience as good as it can be, and in that sense, if there's something like Lectopia there, I'm quite committed to using it because it can improve the student experience. Particularly for those students sometimes who are, maybe have more difficulties than others. For example they might have part time work and they can't be at your lectures all the time. Or, they may be international students or students for whom, they don't necessarily have a strong grasp of English, so Lectopia benefit all students but it benefits in particular, students who have other difficulties.

Revision purposes

Beyond the question of access and equity, 10 of the academics and all the students in the focus group suggested that students would use Lectopia for revision purposes. This refers to the period before the examinations where students might want to refer to particular points of particular lectures. As indicated by one academic:

> For the students, it's the opportunity to review things that they perhaps didn't understand when they are actually studying for the exams.

However, students indicated that they would not listen to the entirety of the lecture but focus only on the relevant sections. One academic also provided a cautionary note to the use of Lectopia in revision:

> I don't think hearing something a second time is the way to go. I think the way to go is to talk to others about what the problems are, either other students or teachers or whoever. I don't think hearing the same thing that was hard the first time, just repeating it is a good use of one's time, but I think some students may think it is.

Ability to listen to other lecture streams

For a small number of academics from the Faculties of Commerce and Science, as well as the Law School where there are multiple streams of lectures, it was reported that the ability for students to listen to other streams without attendance at these streams was a benefit for students. The academics reported that the ability for students to compare lectures and have different access points to information presents a good learning opportunity. One academic also reported that Lectopia may also allow lecturers to listen to each other's lectures although he pointed out that he has not yet done so. The students from the focus groups did not have this option as their subjects did not have alternative lecture streams.

Concerns about Lectopia

There were a number of concerns about the use of Lectopia and these included: Low attendance at lectures, expectation and pressures from students to use Lectopia, the minimal benefits for lecturers and how it may be seen by students as a substitute for engagement.

Low attendance at lectures

The primary concern of 9 out of 11 academic respondents about Lectopia is the resultant low attendance at lectures. The students in the focus groups acknowledged that having Lectopia as a back up meant that some times, students would choose not to attend lectures as a priority. However, all four students indicated that it is preferable to attend as many lectures as possible. One academic pointed out his concern:

> I've had students who say that one of the advantages is that they don't have to come to lectures.

Additionally, one group of academics voted not to use Lectopia subsequently as a result of low attendance:

> We were concerned that people seem to be using it (Lectopia) in place of turning up to lectures. So this year, we had a vote, and we unanimously chose not to use it, just because we taught it was not helping with the student engagement. People were using it, instead of turning up to the lectures, rather than just as a supplement or just when they were sick or had some other things they couldn't escape from.

However, two of the academics reported that they were less concerned about the issue of attendance. Having attended the lectures of these two academics, attendance level was relatively high, despite the availability of Lectopia, when compared to some other lectures. The reason may be due to the way they add value to their lectures which will be discussed later. One of these 2 academics suggested that if attendance was low, he too would be concerned:

> It doesn't worry me… I don't mind. If someone doesn't come to the lecture, downloads it and listens to it later, that's fine for me. But I must say, most of my students still come to lectures. If I had a totally empty theatre, I'd probably have to think again.

Expectation and pressures from students

As reported previously, there was a group of respondents who voted not to use Lectopia but subsequently, had to reinstate the use of the technology under pressure from students. 9 of the academic respondents reported that they felt a lot of pressure from students to use Lectopia. In particular, one academic summed up the feeling of many of the respondents:

> From a teaching perspective, you live and die by your QoTs and I think it's reached a point where the Lectopia has become an expectation of the students and subjects which didn't offer it would then be compared with subjects that do and therefore, it could hinder your QoT.

Minimal benefits for lecturers

Both academic and student respondents found it difficult to identify the benefits of Lectopia for the lecturer. Some respondents made the wry comment that other than telling students who asked for repeat lectures that they can listen to it on Lectopia, there were no benefits for the lecturer. Inevitably, academic respondents talked about the benefits for students when asked about how it may assist them as lecturers.

Substitute for engagement

As an adjunct to the concern about low attendance level, 6 of the 11 academic respondents were concerned that many students might consider the Lectopia to be a substitute for engagement with the subject and staff. Some of the respondents discussed the subtleties of lectures that may not translate into Lectopia mode:

> The reason I don't like it is because the students don't come to class and I feel there is a benefit to be had from watching somebody explain the material… hearing the subtleties. I've had students come in with queries and it's obvious they haven't been to the lectures. They've missed the subtleties, and I think they miss the reactions of the other students too. One of the best things they can do is to come up and talk to us… to see us as a resource that they can use.

One respondent put it succinctly when she maintained that:

> I still see the engagement in the lecture as an important part of the pedagogy.

Yet another academic respondent said that Lectopia should have a supplementary role, rather than a substitute for the lecture:

> I don't see it (Lectopia) as an adequate substitute, I'm unlikely to ask them (the students) to go listen to Lectopia, but it can potentially help supplement

The 4 students in the 2 focus groups also provided interesting responses to this issue. The 3rd year students suggested that Lectopia should not be used for 1st year subjects as it may send the wrong message about the importance of engaging with the lecturers and the subject material from the start. The 1st year students maintained that it was particularly important for them to attend the lectures where possible and that Lectopia was some times 'a waste of time'.

Behaviour around the use of Lectopia

Beyond looking at the attitudes and views of academics and students around Lectopia, it was also important to discern if there were particular behaviours related to the use of Lectopia for both students and academics. As shown in Table 3, the study found that:

1. there were no significant changes to student performance and level of engagement that could be attributed directly to the use of Lectopia,
2. some styles of lectures were more appropriate for Lectopia than others,
3. it was important for academics to 'add value' for students who actually attend the lectures,
4. there was some evidence of self-censorship behaviour amongst the lecturers,
5. there was some evidence that lecturers repeat sentences for the recording and may address the microphone during the lectures.

No significant changes to student performance
While there were concerns about attendance and engagement levels amongst students with the introduction of Lectopia, 8 of the 11 academic respondents were unwilling to attribute changes (if any) in students' performance and engagement solely to Lectopia. For example, one academic suggested that there might be a range of reasons when there is poorer performance:

> We get about 200 hits a week, maybe sometimes more on the Lectopia. I suspect however, we've gone too far now in terms of all of the provisions we have for students. So, the lecture slides on the web, the web, the online tutor, the audio lecture etc etc. It takes away a lot of incentive to come to class and pay attention and I think we see the results of that in the exams and the assignments.

Yet another academic pointed out that:

> The students are as heterogeneously engaged as before.

The students saw the Lectopia as one tool in a whole range of tools in their education and suggested that it is unrelated to their levels of engagement.

Appropriateness and style of lecture
8 of the 11 academic respondents reported that some styles of lectures were more suited to the use of Lectopia than others. Where lecturers stand behind the podium and delivers a stream of knowledge, this was deemed to translate well into Lectopia mode. On the other hand, where the lecture is more interactive and requires participation and responses from students, this was seen to be less conducive for Lectopia. In particular, Lectopia were deemed inappropriate when it is applied to interactive seminars:

> First reason is that most of the teaching in the (edit) school isn't lectures and it's mostly seminar style teaching… it's teaching that is designed to be interactive, to involve student participation, to involve a lot of backwards and forwards and Lectopia is just inappropriate for that. So two reasons… One, technologically it is not designed to catch discussion in the class room and secondly it encourages students to think they can get the educational experience by listening in on the discussion without participating in it.

Having attended the lectures of the various respondents, it would seem that there is support for the sub-theme. Lectopia would not capture a number of occurrences that may happen during lectures, including; the use of white boards and black boards, the use of web sites and videos, the discussion that happen in the lecture or seminar, exercises that are handed out in lecture, and many visual cues, including facial expressions from the lecturers, which form a part of their communication with the students. This may be seen as a limitation of the technology.

Adding value for students present at lectures
8 of the 11 academic respondents felt that it was important to add value for students who actually attend the lectures. Ironically, the lecturers tend to exploit the limitations of the Lectopia technology in adding value for the students in attendance. For example, from observation at the lectures, some academics may use the white board, distribute exercises, engaged in prolonged unrecorded discussion with the students, or access web material (including streaming media). The students in the focus groups indicated that they were appreciative of the acknowledgement of their attendance. However, one of the students who rely mostly on Lectopia due to work commitment felt left out sometimes when listening to Lectopia recordings.

Self-censorship behaviour amongst lecturers
As indicated in Table 3, nearly half the academics reported that they were more conscious of what they said in lectures since the introduction of Lectopia. This is particularly true for academics that do not run scripted lectures and tend to use more examples and case studies. For example, one academic indicated:

> I do remain conscious of knowing what I am saying is being recorded and therefore, sometimes you may offer an anecdote about a person or a company and you do think to yourself, 'Mmm I'm on record here and could it come back to be used against me.'

Addressing the microphone
Lastly, 5 of the academics suggested that they tend to be more conscious of their students who are solely relying on Lectopia and would repeat certain concepts for their benefit. This includes any discussion that may occur during the lectures. For example, one academic said:

> Often I will try and repeat the question and repeat the response. So they (Lectopia users) would pick up.

Some lecturers did indeed do this for the benefit of their Lectopia recording, on top of other value added activities for students who were present in order to strike a balance.

Discussion

Benefits

The results indicate that academics are fully cognizant of the benefits of Lectopia for students from an equity standpoint. One academic in the project reported that, for that one reason alone, despite the shortcomings and concerns, Lectopia was worth adopting. The question of accessibility for students from different backgrounds and needs who is an important one as the demographic of students at the University continue to change and increase in diversity. This is supported by previous findings by Fardon (2003) and MacKenzie (2004) who identified similar groups of students. In looking at the *"Nine Principles Guiding Teaching and Learning in the University of Melbourne"*, one may argue that the use of Lectopia is cognizant of the Principles 4 and 8, which call for recognition of the culturally diverse learning community and the use of premium quality technologies respectively. The use of Lectopia certainly addresses, to a limited extent, the diverse needs of students through the use of a simple, easy to use and accessible technology. However, the ability of Lectopia as an educational technology to provide *'an atmosphere of intellectual excitement'* (Principle 1), *'a vibrant and embracing social context'* (Principle 3), and *'explicit concern and support for individual development'* (Principal 5) is questionable at best.

Concerns

The questions raised about the low attendance levels, and the use of Lectopia as substitute for engagement certainly concerned a large number of the academic respondents. Even the student respondents acknowledged that Lectopia cannot be a substitute for the actual face-to-face lecture in many instances. For example, in the proposed policy around the use of Lectopia at the University (TLSS, 2006b), there is recognition that Lectopia is not a substitute for student engagement:

> There is an expectation that students attend lectures, tutorials and seminars for all classes in which they are enrolled…In cases where lecturers do provide Lectopia, and other teaching materials on-line, this is intended to supplement rather than substitute for regular class attendance.

Yet, in reality, academics are concerned that students will choose Lectopia as an easy pathway, which affects their ability as academics to provide an interaction that is needed on many levels, even in the lecture context. This is particularly true as it has been acknowledged by Chu (1999) and Fardon (2003) that such technologies do not provide for interactivity between students and lecturer. Therefore, in using Lectopia, it may be important for academics to revisit the role that lectures (in particular, large class lectures) play in their subjects and the complementary role of small group consultations, tutorials, seminars and one-on-one interaction. For example, it may be important to ask the question of whether the lecture will continue to be the only primary mean of effective information dissemination.

In addition, it may also be argued that the results also indicate that one of the reasons for the low rate of adoption of Lectopia is that it provides minimal benefits to the academics that are using it. MacKenzie's (2004) report suggested similar issues where only a small percentage (16%) of staff indicated that Lectopia gave them better use of contact time with students and none viewed the achievability of their lectures as a significant benefit. Carroll (2004) argued that for a technology to be adopted successfully, the users have to derive adequate use and benefits from it. This is lacking when it comes to Lectopia

because whereas academics could identify benefits for their students, they found it difficult to identify benefits for themselves. Therefore, unless valued benefits are articulated, adoption rates may continue to remain low, if adoption continues to be voluntary.

Behaviour around the use of Lectopia

However, despite the concerns about student engagement and attendance, the academic respondents could not attribute any changes in levels of performance nor engagement from the students, to Lectopia. As one respondent maintained, students would continue to be heterogeneously engaged no matter the tool or technology. All academic respondents suggested that the performance levels remained similar to previous years. This further reinforces the need to ask the question of the role of lectures, if attendance at lectures are not associated with performance.

The results affirmed Fardon's (2003) suggestion that there are different styles of lectures which lend themselves to Lectopia better than others. What was interesting in the results was the indication that academics do try and add value to the lectures for students who were present. There was some indication from the respondents that motivation for this behaviour might have been two-fold; i) to provide incentive for students to continue to attend lectures where possible and ii) to penalise those students who do not attend lectures. The value adding behaviour may be seen as important, but it does not address the equity and access issue for students who have genuine reasons for missing the lectures. Other academics were more cognizant about those who miss out on the lectures and actually acknowledged those not in attendance even during the main lecture.

Recommendations

For the University of Melbourne in particular, it is argued here that the adoption of Lectopia will continue to remain relatively low despite pressures from students because of the lack of true benefits for the academics and the largely unaddressed perception of lower levels of engagement and attendance from students. However, for equity and access reasons, it remains important to have the option of using Lectopia. From these points of view, some recommendations can be made around the use of Lectopia which include the following:

- The decision to adopt Lectopia should be made after due consideration for lecturing style, subject matter, as well as the relative importance of the relevant teaching and learning principles to the teaching department, academic and student cohort in question.

- Lectopia should only be used where the lecturing style and content is appropriate for the technology. This is more likely for the less interactive large class lectures which are focused on content delivery, and where the use of visual cues is less important or minimal.

- 'Value adding' activities at lectures are important for subjects where Lectopia is available. This is to reinforce the idea that Lectopia should only be a supplement for revision (and occasional missed lecture) and not a substitute for the actual lecture experience. 'Value adding' activities need to acknowledge that students may learn from the interaction and engagement that occurs between students and teachers in the lectures. 'Value adding' activities should not be used to exclude students who are not at lectures.

- Academics are more likely to adopt Lectopia for their subject if they can see benefits for themselves which include; archived lectures that can be used and revised, having parts of the curriculum located 'online' in future semesters, and the ability to use recorded material for assessment and discussion in smaller seminars, tutorial, and laboratory contexts.

- A policy recognising that the use of Lectopia is not an obligation is an important one for the University and should be articulated clearly to students at the beginning of semester. Such policies are important in order to support academics in their choice of educational pedagogy and should be made widely known to academics and students alike.

Conclusions

The findings may be limited in generalisability due to relatively small sample size. However, the respondents have provided an interesting story about their use of and experience with Lectopia which supports some previous findings and also provides some new insights into the use of Lectopia. As the

technology develops to include the capture of document camera and possibly video capabilities, more research will have to be done on its suitability as an educational tool. Additionally, future research should focus more on student perceptions and behaviour. The results have pointed to some practical implications for academics who are considering the use of Lectopia. The paper has included a modest list of recommendations for how the use of Lectopia could be better managed, covering areas of student expectations management, lecturing style and benefits of using Lectopia.

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