The Application and Impact of Lecture Recording on Overseas Student Learning

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ABSTRACT

**Background:** Respond to the growth and diversification of the student population, many universities have applied lecture recording system to help their students to study more flexibly. However, students have mixed views of using lecture recording. Individual differences and preferences still play an important role towards their consideration. Owing to the importance of international students, it is essential to do a study to enhance the understanding of how lecture recording can affect their learning.

**Aims:** The aim of this study is to explore the application and impact of lecture recording on overseas student learning, mainly focus on the reason, pattern, barrier and perception of using it.

**Methods:** This study employed a mixed research method. Both quantitative and qualitative data were obtained from overseas students at the University of Sheffield. Research outcome initially obtained through questionnaire, then, several individual semi-structure interviews were applied to explore the research objectives further.

**Results:** The results have shown that the overall perception on the usage of lecture recording was significantly positive. Students at least believed that lecture recording can help them easier to learn. Findings also showed that most students preferred to listen to part of lecture recording at home in order to review and revise the course work. However, limited awareness of lecture recording was the most common reason which can affect the use of lecture recording.

**Conclusions:** The research concluded that it will lead to more students using lecture recording if the university can enhance its introduction while providing more lecture recordings to students. Despite three hypotheses was verified in this research, an extensive survey with a more widely selected sample would be desirable.
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Chapter 1

Introduction

1.1 Background Information

Recently, there is widespread awareness of the changing profile of students in higher education (Phillips et al., 2007 & Preston et al., 2010). The current generation of students has grown up in the digital age, that is, they have spent almost entire lives surrounded by electronic digital products such as computer, cell phone and digital music player (Nataatmadja & Dyson, 2008; Tynan & Colbran, 2006; Williams & Fardon, 2007a). In addition, according to Phillips et al. (2007), a large proportion of university students have to combine their studies with work or family commitments. They have complex lives and look forward to obtaining more appropriate support for their learning. However, it provides both challenges and opportunities to the university which might lead to great changes in learning experience of students (Tynan & Colbran, 2006). As a consequence of above changes, many universities worldwide have recently paid significant attention to merge new educational technologies with traditional teaching methodologies in order to support students learning flexibly and effectively (Williams & Fardon, 2005, 2007a).

In despite of the legitimacy and effectiveness of the lecture is a highly debated topic, there is no doubt that lecturing is the most important teaching method in most higher education institutions around the world (Phillips, 2005; Sheely, 2006; McNeill et al., 2007). Lecture, as one of teacher-centred platforms, is used to present the most common methodologies at universities to educate their students (Moore, Armstrong & Pearson, 2008). However, with the significant change of the student nature in higher education, there is growing evidence that traditional lecture method no longer fulfill students learning needed (McNeely, 2005 cited in Williams & Fardon, 2007a). In addition, due to students who have different learning styles will benefit from different
teaching methods, the traditional lecture method can thus be seen to work relatively effectively for students who are ‘auditory’ learners, but those who are ‘visual’ or ‘tactile’ learner, even hinder their learning (Williams & Fardon, 2005). In spite of the role of lecture in higher education is increasingly debated, there is no sign that this educational method will be abandoned in the near future. Therefore, it is necessary to find ways of enhancing this teaching practice to make it more flexible and accessible to all students (Williams & Fardon, 2007a).

According to McGarr (2009), the continuing development of educational technologies is opening up many possibilities, and many digital technologies have been used as a means to expand the boundaries of traditional lecture method. A common approach to make didactic lectures more effective and accessible for students is to record it (Biggs, 2003). Thus, lecture recording systems have been widely applied to a large number of universities as a tool to enhance the convenience, flexibility and accessibility of student learning (Engstrand & Hall, 2011; Franklin et al., 2011; McNeill et al., 2007; Phillips et al., 2007; Preston et al., 2010; Traphagan, Kucsera & Kishi, 2010). MyEcho (The University Recording Service), as one example of this type of technology, is used by the University of Sheffield. This system distributes the recording files in digital format which can be manually downloaded from the Internet to subscribers. In addition, these audio or video files can be accessed directly by computer, or transferred to other portable media devices such as iPod.

Williams and Fardon (2005) pointed out that lecture recording offers various advantages for students’ learning. For instance, a number of studies indicated that using lecture recording can lessen students’ cognitive overload by providing them multiple opportunities to listen more closely to lectures while taking few notes (Franklin et al., 2011 & Oliver, 2005). In addition, it allows students the ability to review the content of lectures in anytime and anywhere in which they are comfortable (McGarr, 2009; Mcneill et al., 2007; Gribbins, 2007; Wieling & Hofman, 2010). Therefore, it can be seen that lecture recording is highly beneficial for all students,
especially for some special student groups such as students those who with disabilities and timetable clashes, and whose learning styles are unsuitable to the traditional lecture method (Copley, 2007).

1.2 Justification and Benefits of Research
Due to globalisation, universities are increasingly part of the world education network. Marginson (2002) indicated that UK is the second largest provider of international education in the world. Consequently, there are a huge number of overseas students studying at the University of Sheffield. They might have some different expectations of university education, and because their important role in the university, it is necessary to meet their requirements in order to better support their learning.

In addition, although lecture recording have gained popularity in many higher education institutions, students still have mixed attitudes to the implementation of it (McElroy & Blount, 2006 & Preston et al., 2010). The usage of lecture recording will be resisted if students believe that it can reduce the contact with class. Besides, Copley (2007) indicated that the function of lecture recording is not too dissimilar to other learning materials, so does this service truly benefit students, especially overseas students? What specific reasons do they use lecture recording? Furthermore, according to Phillips et al. (2007), the introduction of new educational technology is often accompanied by the changes in student learning method. It will be definitely happening with the application of the lecture recording, thus, how does it affect students’ learning habit? However, only a limited amount of studies has investigated the usage and impact of lecture recording on student learning. Thus, it is essential to do a research in order to achieve useful insights of how academic staffs can utilise lecture recording to meet the requirement of students and how lecture recording can be used to create a more effective learning environment for students. The findings can also be used as guidance to assist university to improve lecture recording system in the future.
1.3 Research Objectives

The purpose of the present research is to explore the application and impact of lecture recording on overseas student learning deeply and broadly. It mainly focuses on four research objectives as following:

1. To discover the main reason why overseas student use lecture recording.
2. To investigate the main pattern how overseas student use lecture recording.
3. To determine the perception of using lecture recording among overseas student.
4. To investigate the main factor that can influence overseas student use lecture recording.

1.4 Research Organisation

In Chapter1, it begins with an introduction of the area of this study which includes the background information, justification and benefits of research, research objectives and organisation. Then, it is a literature review in Chapter2. It aims to provide a general review of existing studies of lecture recording, particular for four aspects: the reason, the pattern, the barrier and the perception of using lecture recording. Next, in Chapter3, it illustrates the methodology of this study that includes a description of the research approach, methods, instruments and ethical issues, followed by data analysis and discussion of the research results which came from both questionnaire and interview in Chapter4. Finally, Chapter 5 summarises the conclusion with regard to the research objectives. It also describes the suggestions, limitations, as well as recommendation for future research.
Chapter 2

Literature Review

2.1 Introduction
Till now, there is only a limited amount of studies on the application and impact of lecture recording on overseas student learning. Therefore, existing literatures in this research area will be reviewed and synthesized in this chapter. The following section will be divided into four parts: the reason, the pattern, the barrier and the perception of using lecture recording.

2.2 The Main Reason of Using Lecture Recording
Based on the advantages of lecture recording such as enhancing the flexibility, efficiency and accessibility of student learning, a mass of studies have found that students in higher education are enthusiastic to use the recorded materials (Gosper et al., 2008; McGarr, 2009; Preston et al., 2010; Tynan & Colbran, 2006; Williams & Fardon, 2007a). For instance, Franklin et al. (2011) indicated that lecture recording is widely used by students (75.5% of first-year responders and 84.3% of second-year responders) in a medical school. Meanwhile, numerous studies have attempted to explain the reason why students prefer to use lecture recording (Engstrand & Hall, 2011; Nataatmadja & Dyson, 2008; Traphagan, Kucsera & Kishi, 2010). Although students reported various reasons of using lecture recording, two main reasons have been high-frequently mentioned.

One is ‘miss class’ (Engstrand & Hall, 2011; McElroy & Blount, 2006; McGarr, 2009; Wieling & Hofman, 2010; Williams & Fardon, 2005, 2007b). The report from Traphagan, Kucsera and Kishi (2010) found that the most common reason for using lecture recording cited by students was, “To make up for missed class”. This result is in line with Gosper et al. (2008) who indicated that 83.4% of students reported that
they used lecture recording as a backup when they missed the lecture. According to Phillips et al. (2007), 71% of Australian university students undertake paid work during semester, working an average of fifteen hours per week which may affect their learning time. In addition, other issues such as living far away from the campus, parking difficulties and illnesses can also lead to inconvenient to attend the face to face classes (Williams & Fardon, 2005). Thus, students are requesting more flexibility to enable them to study while managing their complex lives, and lecture recording can offer this chance to allow students to “re-attend” class at anytime and anywhere (McInnis & Hartley, 2002 & Shim et al. 2006). That is, lecture recording can be used as a substitute to the traditional lecture when students missed the class due to various reasons.

The other one is for revision purpose: lecture recording can also be used as supplementary materials to assist student learning by using it to review lecture repeatedly, to check and complement lecture notes and to help revise for exams (Copley, 2007; Engstrand & Hall, 2011; Gosper et al., 2008; McNeill et al., 2007; Nataatmadja & Dyson, 2008; Phillips et al., 2007; Preston et al., 2010; Wieling & Hofman, 2010; Williams & Fardon, 2005, 2007a). For example, students reported that they used recordings to clarify complex parts of the lecture in order to get in depth understanding of difficult content (Franklin et al., 2011, p.26). Similarly, Traphagan, Kucsera and Kishi (2010) found that students (70%) used it to review course content while to help themselves understand concept deeper and better (46%).

In addition, several studies indicated that difficulties in hearing or taking notes in class can prompt students to use lecture recording (Engstrand & Hall, 2011). Nataatmadja and Dyson (2008) pointed that many overseas students considered that lecture recording truly helped them overcome their language barriers. Likewise, Biggs (2003) indicated that lecture recording is particularly useful for international students who may have difficulty in comprehending and keeping up with note-taking in class. In addition, 80.5% of students with disabilities were more dependent on lecture
recording for review and revision, and 39.8% of them stated that the reason why they used it is that they were physically unable to take notes during the lecture (Williams & Fardon, 2007b).

Moreover, previous surveys have reported an interesting finding that some students prefer lecture recordings over face-to-face lectures due to it is more fitting their learning habit. This group of students perhaps contains those who with non-auditory learning styles and those who do not suit the traditional lecture method (Williams & Fardon, 2005). However, these literatures did not show whether lecture recording can influence students’ learning styles. In addition, Franklin et al. (2011) indicated that the most common feedback from students was that lecture recording was able to allow them study at own pace and own place, meanwhile, to help students avoiding potential cognitive overload by providing them opportunities to listen to live lectures repeatedly. This advantage is highly beneficial for today’s students who have multi-tasking regularly. Furthermore, Nataatmadja and Dyson (2008) said that the latest and up-to-date technology can arouse enthusiasm in students which push them to use lecture recording. Additionally, there is a high level usage rate of lecture recording by distance education or ‘external’ students, due to recording can assist them to build connection with class and to motivate them to learn (Preston et al., 2010, p.720).

2.3 The Main Pattern of Using Lecture Recording
There is a number of studies revealed that most students usually watched an entire lecture recording rather than selected parts of them. For example, Chan, Lee and McLoughlin (2006) found that 82% of respondents pointed out they will listen to available recordings from start to finish multiple times, similarly, Gosper et al. (2008) showed that 71% of participants listened to the entire recording while more than half of the participants might listen to the recordings more than once. Interestingly, several literatures showed opposite outcome in relation to the strategy of using lecture recording. According to Frydenberg (2008), most of students would not like to spend time to listen to a complete recording of a lecture that they had already heard. In
addition, students just used lecture recording to review difficult concepts, which resulting in 69.8% of them only listened to part of recording while 29.2% of students listened to the whole lecture (McElroy & Blount, 2006, p.554).

In addition, researchers have found that students did not use recording equally over the whole semester, and typically, two peak times (at the beginning and the end in the semester). (Brotherton & Abowd 2004; Copley, 2007; McGarr, 2009; Harley et al. 2003 cited in Traphagan, Kucsera & Kishi, 2010). Zupancic and Horz (2002) also showed that the number of recording accesses will increase at the beginning and at the end of a semester. All in all, above findings demonstrated that students used lecture recording as an effective supplementary tool to help them reviewing the coursework and revising the exam from another angle.

More specifically, Most (87%) of respondents reported that they watched the lecture recording during a dedicated study time, while a minority (13%) of them listened to recording when doing other things (Copley, 2007, p.391). This finding concurs with the study by Huntsberger and Stavitsky (2006), it showed that 91% of respondents played the recording during their regular study time rather than engaged in other activities (McGarr, 2009, p. 314). Besides, the survey of Traphagan, Kucsera and Kishi (2010) also found that students were more likely to listen the recording in the night, but on weekends.

Moreover, previous studies also reported that students prefer to watch lecture recording by using their own computer at home (Copley, 2007; Evans, 2008; Gribbins, 2007; Tynan & Colbran, 2006). According to Engstrand and Hall (2011), 94% of students accessed the lecture through their home PC, with only 6% minority by using college equipment. Similarly, a study by Lee and Chan (2007) found that most students preferred to use home PC to listen the lecture recording. Nevertheless, a survey from Williams and Fardon (2007a) indicated that students who have portable media such as iPod and MP3 player were less likely to use lecture recording at home,
but on campus.

Furthermore, according to McGarr (2009), universities generally provided lecture recordings in various formats, but the most popular delivery format is ‘Download’. For example, 52.9% of respondents reported that download was their favourite format while 26.5% of respondents choosing ‘Streaming’. A possible reason for this might be that downloadable format allows students to access the recording offline, in other words, giving more control of lecture recording to students themselves (Williams & Fardon, 2007b). This finding is in line with another research by Williams and Fardon (2007a), which showed that download format was considered as the most popular format by students, particularly for students who used portable media players to watch and store lecture recordings.

2.4 The Main Barrier of Using Lecture Recording

Although there are a number of advantages of lecture recording, barriers still exist when using it. Maag (2006) indicated that due to the complicated facilities needs and technical support, lecture recording has been less widely used than other lecture materials in most institutions. In addition, despite there is no evidence to show that the recording can reduce students’ lecture attendance, educators still believe it as a fact, which leads them to refuse applying the lecture recording (Engstrand & Hall, 2011; McGarr, 2009; McNeill et al., 2007; Traphagan, Kucsera & Kishi, 2010).

On the other hand, based on the finding of Nataatmadja and Dyson (2008), more than 60% of students did not use the lecture recording. The most common reason on the feedback from student survey is technical problem such as recording quality issues, long buffering time and big file size (Copley, 2007; Franklin et al., 2011; Frydenberg, 2007; Tynan & Colbran, 2006). For example, many students failed to access to the recording because they have to take too long to download the recording files. In addition, students also indicated that due to technical errors, the slides and audio was not synchronised with each other which might make it more difficult to follow
(McNeill et al., 2007). Moreover, based on the study by Engstrand and Hall (2011), 16% of students have no knowledge for how to access to a lecture recording while 19% of students have limited knowledge but no confident of using it. Similarly, Gribbins (2007) found that 55% of students were not aware of any lecture recordings and how to access to them. Therefore, lacks of awareness of lecture recording and limited knowledge of how to use it are the other two important barriers in terms of the usage of lecture recording. It also demonstrated that greater explanation and significant training are needed for lecture recording (Copley, 2007, p.394).

Preston et al. (2010) indicated that some of the contexts in which lecture recordings are less applicable used when lecture requires a series of communication, collaboration and interaction. Lack of interaction is a significant barrier for students to use lecture recording (Engstrand & Hall, 2011). In addition, recordings do not provide the social value of getting close to know their lecturer, asking questions and meeting their mates: it is a one-way, non-interactive transmission mode of solitary learning activity (Tynan & Colbran, 2006). Therefore, some students might resist using it if they believe it will reduce the interpersonal connection with lecturers and classmates (Sutherland & Badger, 2004).

Moreover, there are many other reasons why students do not use lecture recording. For example, Nataatmadja and Dyson (2008) indicated that 16% of students have preferred to read written-materials rather than listening to recordings. This viewpoint is the clear opposite of those students who liked to use the lecture recording, which means different learning habits will affect their decision whether to use the recording or not. In addition, many students pointed that they were attending the class regularly, so that they did not need to use it to watch lectures again. They also mentioned that they did not like to listen to lecture recording due to it is too long and boring (Tynan & Colbran, 2006). These above issues might lead to less use of lecture recording than expected. Furthermore, it found that although students usually had a positive view of using lecture recording in their learning, they are more likely to use notes than
recordings during their revision (Lazzari, 2009 cited in McGarr, 2009). Besides, Copley (2007) also indicated that the function of recording is not too dissimilar to the other lecture materials such as Power Point handout. Thus, it will be interesting to compare the usage of different learning materials as well as their impact on student learning.

2.5 The Perception and Comments of Using Lecture Recording

In general, most of the students reported a positive impact on their learning of using lecture recording technologies. They appreciated it as a useful study tool to help their learning and looked forward to seeing more lecture material available in recording form, even including those who did not use it (Akiyama et al. 2008 cited in Engstrand & Hall, 2011; Gosper et al., 2008; Meng 2005 cited in Gribbins, 2007; McNeill et al., 2007; Preston et al., 2010; Traphagan, Kucsera & Kishi, 2010; Wieling & Hofman 2010; Williams & Fardon, 2005, 2007a). In addition, several empirical studies have shown that students learn better from words and pictures than from words alone. Thus, students are more likely to use recording as a replacement of the text-heavy resources because it might improve student learning better (Franklin et al., 2011; Mayer, 2001; McGarr, 2009).

In Soong et al.’s (2006) survey with respect to 1160 students on their usage of lecture recording in Singapore, more that 90% of students agreed that recording was useful in relation to their studies (Gosper et al., 2008). In addition, students have reported that using recordings had an exact positive impact on their exam performance (Brittain et al. 2006 cited in Traphagan, Kucsera & Kishi, 2010). For example, students who came from four universities in Preston et al.’s (2010) research indicated that they liked recording because it can help them to learn, 67% of respondents agreed that it helped them to achieve better course performance in either a significant or a moderate extent while 80% of respondents considered that using recordings will assist them easier to learn.
On the contrary, few studies found that there is no significant difference in students’ course results between those who used lecture recording and who did not (Gribbins, 2007 & Traphagan, Kucsera & Kishi, 2010). Franklin et al. (2011) indicated that the possible reason for why course performance did not enhance may be the time management, which means controlling the time balance of using recordings and other resource. The more time you spend on recordings, the less you need to spend on other resource. Therefore, a few negative perception of the usage of lecture recording and problems relate to it remains though, as a new educational technology, it still requires much research in order to evolve a set of effective educational practices.

In order to minimise the weakness and to improve the service, some studies have collected the comments and advices from students in regard to the usage of lecture recording. Improving technological problem is one of the major comments (Nataatmadja & Dyson, 2008). Based on the research of McNeill et al., (2007), students seemed to be quite concerned with gaining reliable, consistent access to the lecture recording. In addition, it also found that image and sound quality of lecture recording is very important for most students (Engstrand & Hall, 2011; McNeill, 2007). For example, one of the negative comments from Copley’s (2007) survey is that students indicated that some words and diagrams on slider were not clear in the video recording. It seems to be important to provide adequate technical support in each institution, so that students can only focus their learning rather than troubleshooting the technology (Chan, Lee & McLoughlin, 2006, p.119).

In addition, Soong et al. (2006) found that 66.8% of students reported that they prefer ‘whole package’ of instructional modes, which combines lecture recordings and relevant course documents. Likewise, William and Fardon (2007b) found that 75% of respondents are more likely to see the recordings synchronised with the PowerPoint slides automatically than manually controlled. They also mentioned that they prefered to hear the discussion of students and to see lecturer’ face in the recording, which might help them feel interacting and communicating with the class (Engstrand & Hall,
2011; McNeill et al., 2007). For example, almost 75% of students in the 2006 UWA campus-wide survey pointed out that they wanted to see lecturers themselves instead of slide alone (Williams & Fardon, 2007b). Furthermore, many comments from students advised that lecturers should speak clearly, slowly and repeat questions from the audience, besides, they have strong views on keep recordings short and ensure lecturers to start and finish the lecture on time in order to record the entire lecture (Chan, Lee & McLoughlin, 2006). It is frustrating if important information is given at the beginning or the end of a lecture and is not always recorded.

2.6 Conclusion

To sum up, this chapter provided a review of previous research results in relation to this study area, and showed the theoretical framework by which the variables investigated in this research have been based. Based on above findings, the research method and hypotheses will be formulated to guide this study in next chapter.
Chapter 3

Research Methodology

3.1 Introduction
The research methodology utilised in this study will be described in this chapter. It begins with the illustration of the research approach and design. A mixed method and deductive approach was chosen to use in this research. Next, it represents the description of quantitative and qualitative research methods separately which includes setting, participants, instruments and procedure. Questionnaires and interviews were used to collect the needed data for this survey. In addition, in order to achieve meaningful results, the research tried to establish the reliability and validity of data through pilot test. Besides, the ethical issues will also be considered during the whole data collection process.

3.2 Research Approach and Design
In general, the aim of this study is to investigate the application and impact of lecture recording on overseas student learning at the University of Sheffield. Consequently, a deductive approach was considered appropriate and taken in this study. This is because it is the dominant approach to explain causal relationships between different variables. In addition, the deductive approach allows the prediction of phenomena and therefore tests them with the control. These controls would help to ensure that achieving what the researcher want through the research (Collis & Hussey, 2003). According to Robson (2002), there are four sequential stages in a deductive research: creating a hypothesis, expressing it in operational terms, testing this operational hypothesis and finally examining it (confirm or reject).

The following hypotheses were posited which will be tested in this research in order to achieve the research objectives:
H1: The usage of lecture recording will contribute positively for overseas students’ learning.

H2: The usage of lecture recording will influence overseas students’ learning habit.

H3: Limited awareness of lecture recording will easily contribute overseas students do not use the recording than recording quality issues.

In order to answer the research questions and test above hypotheses, this study employed a mixed research method. Both quantitative and qualitative data were obtained from overseas students at the University of Sheffield. In addition, a number of secondary literature resources were also utilised to assist the research in analysing existing data, and therefore provide a general background related to the usage of lecture recording in student learning. Saunders, Lewis and Thornhill (2009) indicated that different methods have their own strengths and weaknesses. Thus, two methods have been utilised in this research in order to answer the research questions. Specifically, the study adopted quantitative method to obtain a general finding initially through questionnaire which can collect the viewpoints from a great number of overseas students concerning their use of lecture recording. Next, several individual interviews were arranged in order to explore the research objectives further and in great depth.

3.3 Quantitative Method

3.3.1 Setting and Participants

This research was conducted at the University of Sheffield in the UK. It is because of the lecture recording, as a new educational technology, has not been used equally and widely in the whole university. Therefore, it is worth to investigate the application of lecture recording in different departments in order to assess its value and to make appropriate improvement of recording system. However, it would be impracticable to survey the entire population. Thus, the non-probability sampling, selecting samples based on the subjective judgement, was adopted in this study (Saunders, Lewis &
Thornhill, 2009, p.213). In addition, some variables might be uncontrolled because this research will be done as a master dissertation. Therefore, the sample of this research consisted of both postgraduate and undergraduate overseas students who were mainly enrolled in some selected departments which have already used lecture recording system such as Information School, School of Health and Related Research, and Management School.

3.3.2 Instruments

This research concentrates on collecting the data related to opinions, feelings and perceptions from the sample with regard to the usage of lecture recording. Thus, questionnaire was chosen because it is useful to link other methods in a multiple-methods research design (Collis & Hussey, 2003). In addition, questionnaire also allows the researcher to collect data from a huge population quickly, cheaply and straightforwardly. The questionnaire of this research was showed in Appendix A, which has consisted of 12 questions includes both open and closed format in four sections. Closed questions which have two or more options can be selected by respondents quickly and easily (Bryman, 2004). However, it cannot permit respondents to show their additional viewpoints. Thus, open question, which allows respondents speak freely, was also used in this case. As a result, it gives researcher a detailed answer of what is the upper-most in respondents’ mind (Fink, 2003). Moreover, in order to assist participants in answering the question better, one filter question and some linking phrases were included in survey questionnaire. They will be able to help respondents skip some questions which are not suitable for them.

3.3.3 Research Variables

Demographic Information

The first section of the questionnaire assessed several demographic characteristics of research sample. Respondents were asked to indicate the title of course they enrolled in, gender, age and enrolment status, as shown in Appendix A: Q1 - Q4 respectively.
Q1 aimed to collect exact information about the course which participants enrolled in, and thus, to distinguish different academic background of them. Q2 - Q4 which related to gender, age and enrolment status were fixed options and each answer of them need to pre-code in order to facilitate data input and subsequent data analyses (Saunders, Lewis & Thornhill, 2009, p.401). Thus, male and female were coded as 1 and 2 in that order; each option of age was coded as follow: ‘18-21’ = 1, ‘22-25’ = 2, ‘26-29’ = 3 and ‘other’ = 4; full time and part time status were coded as 1 and 2 respectively. In addition, Q5, as a filter questions, can be used to divide participants into two groups, and those participants who did use lecture recording were able to answer all questions in the following parts.

Usage Experience
The second section of the questionnaire investigated the reason and perception of using lecture recording among participants. The research used a five-point Likert scale to measure the degree of intensity for each option. In Q6 and Q7, respondents were asked to indicate the reason why they use lecture recording and their perception of using it. With 6 reason statements provided in Q6, the degree of intensity, ranging from: ‘Strongly agree’ = 5, ‘Agree’ = 4, ‘Neutral’ = 3, ‘Disagree’ = 2 and ‘Strongly Disagree’ = 1. Likewise, in Q7, ranging from: ‘Yes – moderately’ = 4, ‘Not sure’ = 3, ‘No - didn’t help enough’ = 2 and ‘No - detrimental’ = 1. In addition, an open-ended box was also provided for Q6, so that respondents could add additional reasons if they were not included in the choices given. These variables would be used to examine the hypothesis 1 and 2, thereby, to meet the research objectives.

Usage Pattern
In this section, participants need to indicate the frequency, strategy and place of using lecture recording in order to assess the diversity of usage pattern. Owing to the answer with the given code in each option was easily processed in computer systems. Thus, Q8 and Q9 was coded respectively as follows: ‘Almost always’ = 1, ‘Frequently’ = 2, ‘About half of the time’ = 3, ‘Sometimes’ = 4 and ‘Rarely or almost never’ = 5;
‘Listened to part of a recording’ = 1, ‘Listened to all of a recording’ = 2, ‘Listened to key points/summary of a recording’ = 3 and ‘Other’ = 4. In addition, in order to investigate the most favourite place where students are more likely to use lecture recording, responders can choose more than one option in Q10.

**Influencing Factor**

Based on Q5, those students who did not use lecture recording before were able to answer the questions in Part IV directly. Q11 aimed to capture the viewpoints on what factors can influence students use lecture recording with 8 reason statements provided. This can be used to measure the weakness of the lecture recording. Similarly to the previous measure approach, each statement was coded as follow: ‘Strongly agree’ = 5, ‘Agree’ = 4, ‘Neutral’ = 3, ‘Disagree’ = 2 and ‘Strongly Disagree’ = 1. Besides, an open-ended box was also available for respondents in order to gather additional insights of this question. Furthermore, respondents were asked to indicate the favourite learning materials such as video podcast, audio podcast, slide and traditional handouts in the last question. Again, they can choose more than one option. These variables can be used to test the research hypothesis 3, and thus, to achieve an overall perspective of the usage of lecture materials among respondents.

**3.3.4 Pilot Testing**

Because questionnaire does not offer a chance to adjust any questions, thus, it is necessary to do a pilot test to rectify this problem. According to Bryman (2004), the purpose of pilot test is to refine the questions to ensure that respondents can answer them correctly and therefore to obtain the valid and reliable data.

First of all, the supervisor was asked to give comments on the suitability of questions in both questionnaire and interview to the researcher. Then, using these suggestions to improve and establish the content validity of the questions prior to the pilot testing. Because the number of pilot tests is dependent on the size of the research project, the time and the resources that researcher has (Collis & Hussey, 2003). Therefore, five
students who were familiar with the investigated area and willing to undertake the task were determined to do the pilot test. Both questionnaires and interviews were pilot-tested in different periods in line with the convenience of participants. The results showed a number of grammatical and semantic problems. Based on their comments, a second questionnaire was developed and sent to them again. They basically agreed that the second draft was suitable to answer. Finally, the questionnaire was putted on the Web and distributed the link to research sample by email. The whole data collection process lasted about a month from July 9 to August 10.

3.4 Qualitative Method

3.4.1 Setting and Participants
In this study, all overseas students who received the questionnaire were considered as the interview survey population. However, it is impossible to study all of the units in a study due to a range of reasons such as time issue, financial issue and access issue (Bryman, 2004). Thus, purposive sampling was appropriately adopted in this research. That is, research participants were selected purposely, according to the respondent’s knowledge in relation to the investigated area (Easterby-Smith, Thorpe & Lowe, 2002). In addition, the research needs to identify the sample size. Based on the feedback of questionnaire and the aim of the interview which is to understand different respondents’ experience of using lecture recoding in depth, interviews were finally conducted with five overseas students (three of who used lecture recording and two of who did not use lecture recording). Furthermore, interviews were carried out in a quiet, comfortable and encouraged environment which was determined by the researcher and participants. In order to acquire as much data as possible from participants, it also allowed them to be free to spread out the topics but still be applicable and controllable during the interviews (Denscombe, 1998).

3.4.2 Instruments
According to Saunders, Lewis and Thornhill (2009), semi-structured interviews provide an opportunity to ‘explore’ answers. It can add significance and depth to the
data what researcher obtained. Thus, semi-structured interviews were used to gather more details about participants’ specific experiences of using lecture recording. Each interview was approximately 20 minutes in length. A list of questions was prepared as guidance in advance. Besides, the responses from interviewees will be gained from external to essence in the light of Russian doll principle (Saunders, Lewis & Thornhill, 2009). In addition, although questions may vary from interview to interview, the order of questions was ensured to be logical to participants while the language researcher use was comprehensible. Moreover, in order to ensure the reliability and credibility of data, a tape recorder and interview notes were used to assist the researcher to avoid interviewer bias and catch important points (Easterby-Smith, Thorpe & Lowe, 2002).

### 3.4.3 Procedure

Once the time and place had been agreed to by both participants and the researcher, the relevant information including the general topic information was forwarded to participants approximately three days before the interview in order to help them do a preparation. Although the order and style of question was decided during the course of each interview, the topics and issues were specified prior to the interview in this study as follow:

1. How do you know about lecture recording?
2. What is your view on using lecture recording?
3. What time, place and strategy do you use lecture recording?
4. Do you think recording may influence your learning habit?
   - 4.1 How?
   - 4.2 Which learning materials do you more prefer?
5. What factors will affect you using lecture recording?
   - 5.1 Why?
   - 5.2 What comments do you have about the lecture recording?
Based on the guided questions above, a set of questions was divided into five categories. The first two categories aimed to discover how students access recordings and their perception of using it. Then, the research tried to understand the pattern of using recordings through the third category, such as what specific time they usually use it and where do they prefer to use it. The fourth category aimed to investigate the relationship between learning materials and students’ learning habits. Moreover, the factors what can affect students using lecture recording would be explore by the final category questions, especially for those students who did not use it before. At the same time, the comments pertaining to the lecture recording would be collected as much as possible. In short, the most important questions of each interview are the Q4 and Q5. With this information, the research was able to achieve a better and deep understanding on the findings that questionnaire gathered (See Interviews Transcripts in Appendix B).

3.5 Ethical Approval

Owing to all research involving human participants, thus, obtaining responders’ prior consent is the first ethical principles of this study. Because participants have the right to withdraw partially or completely during the research process (Robson, 2002), and they must be fully informed about the procedures and risks of the research, therefore, the background information, objectives and procedures of this study were fully offered to participants to ensure that they were well informed and comprehended before the data collection.

In addition, data given by respondents to this research was kept in confidence and anonymously. The researcher cannot expose their name at all. Meanwhile, participants have the rights to access their personal information and to destroy their own data. Moreover, the researcher must treat participants just as the researcher would like to be treated. It should minimize the possible of any kinds of harm to them either physical or psychological. For example, the researcher will choose appropriate time and way to
ensure that participants feel comfortable and natural throughout the interview as possible. Besides, ‘Participant Information Sheet’, ‘Consent Form’ and ‘Ethical Application Form’ were provided to the participants during the whole data collection process (Show in Appendix C, D and E).

3.6 Conclusion
All in all, a mixed method was chosen to gather the primary data for this research. Questionnaires were distributed to overseas students in some selected departments at the University of Sheffield in order to achieve a general finding. In addition, interviews were conducted with five participants to explore the research objectives further. The succeeding chapter will analyse and discuss the results obtained from above research methods.
Chapter 4
Data Analysis and Discussion

4.1 Introduction
In this chapter, both quantitative and qualitative data will be analysed in attempt to answer the research questions. Data from questionnaire will be described firstly, followed by the interpretation and discussion of the whole survey results. Responses from the interviews are used to supplement the quantitative data analysis results. In addition, the discussion of the findings incorporates relevant information from the literature review mentioned in Chapter 2.

4.2 Findings
4.2.1 Demographic Information
The first set of questions in survey questionnaire aim to examine the student demographic information. As Table 4.1 shows, of the 44 participants who completed the questionnaire, 20 were male (45.5%) and 24 female (54.5%). They mainly came from four different departments at the University of Sheffield: Information School (70.5%), Economics school (13.6%), School of Health and related research (4.5%) and Management School (4.5%). In addition, it is apparent from this table that the highest frequency of age range was 22-25 (61.4%), followed by the 26-29 age range at 18.2%. Meanwhile, the number of whose age more than 29 was approximately 15% of the sample size. The 18-21 age range was the smallest number, only 6.8% of the sample. Moreover, over 90% of respondents were full time student by contrast with only 4 respondents were part time student.

Table 4.1: Summary of respondents’ demographic information

<table>
<thead>
<tr>
<th>Student Information</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>22-25</td>
<td>61.4%</td>
<td></td>
</tr>
<tr>
<td>26-29</td>
<td>18.2%</td>
<td></td>
</tr>
<tr>
<td>30+</td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>18-21</td>
<td>6.8%</td>
<td></td>
</tr>
<tr>
<td>Full time</td>
<td>90%</td>
<td></td>
</tr>
<tr>
<td>Part time</td>
<td>10%</td>
<td></td>
</tr>
</tbody>
</table>
Figure 4.1: Data on lecture recording usage rate

As mentioned in Chapter 3, Q5 was used to distinguish the survey sample in order to investigate the use rate of lecture recording. It can be seen from the data in Figure 4.1 that almost two-fifths of respondents (40.9%) indicated that they used lecture recording. However, 50.1% of the sample showed opposite responses. This result is in line with the survey of Nataatmadja and Dyson (2008) which indicated that 64% of students reported that they did not use recording while the remaining 36% of students showed different viewpoints. In addition, part time students showed a high-level use rate of lecture recording. The reason may be because the recording is their only choice to see the lecture and to establish the connection with the class.
4.2.2 Experience of Using Lecture Recording

18 respondents those who used lecture recording, were asked to indicate their usage experience in the second part of the questionnaire. The data related to the reason and the perception of using lecture recording was presented in frequency, percentage and the value of mean. It is noted that the choices made by respondents in the questionnaire were converted into numerical representations (1-5) and were statistically analysed by SPSS.

Table 4.2: Summary of main reasons of using lecture recording

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly agree (5)</th>
<th>Agree (4)</th>
<th>Neutral (3)</th>
<th>Disagree (2)</th>
<th>Strongly disagree (1)</th>
<th>mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Prefer recordings than face to face lesson</td>
<td>1 (5.6%)</td>
<td>1 (5.6%)</td>
<td>6 (33.3%)</td>
<td>7 (38.9%)</td>
<td>3 (16.7%)</td>
<td>2.44</td>
</tr>
<tr>
<td>2. To revise and review</td>
<td>5 (27.8%)</td>
<td>11 (61.1%)</td>
<td>2 (11.1%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>4.17</td>
</tr>
<tr>
<td>3. Make up for missed lecture</td>
<td>4 (22.2%)</td>
<td>12 (66.7%)</td>
<td>0 (0%)</td>
<td>1 (5.6%)</td>
<td>1 (5.6%)</td>
<td>3.94</td>
</tr>
<tr>
<td>4. To study at own pace</td>
<td>4 (22.2%)</td>
<td>12 (66.7%)</td>
<td>2 (11.1%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>4.11</td>
</tr>
<tr>
<td>5. To control on place and time of study</td>
<td>4 (22.2%)</td>
<td>11 (61.1%)</td>
<td>3 (16.7%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>4.06</td>
</tr>
<tr>
<td>6. Difficulties in hearing or taking notes in class</td>
<td>3 (16.7%)</td>
<td>8 (44.4%)</td>
<td>3 (16.7%)</td>
<td>2 (11.1%)</td>
<td>2 (11.1%)</td>
<td>3.44</td>
</tr>
</tbody>
</table>

Table 4.2 shows the results of main reasons of using lecture recording. It can be seen that the most significant reason which can prompt students to use lecture recording was to revise and review at the mean of 4.17. This finding is in agreement with Copley's (2007) findings which showed that lecture recording was usually used to assist students to review. In addition, to study at own pace and to control on place and time of study were the other two impartment reasons of using lecture recording at the mean of 4.11 and 4.06 respectively. Meanwhile, approximately 90% of respondents indicated that they were using lecture recording to make up for missed class.
Moreover, it is congruent with the finding of Williams and Fardon’s (2005) research that indicated that lecture recording was significantly useful for those students who have language barriers. From the data in Table 4.2, it can be seen that more than 60% of respondents either strongly agreed or agreed that using lecture recording can help them overcome the weakness of difficulties in hearing or taking notes in class. In contrast, preferring recordings than face to face lesson was the least reason related to the usage of lecture recording at the mean of 2.44, in other words, face to face lesson was still considered as the main learning approach for students.

Table 4.3: Summary of the perception of using lecture recording

<table>
<thead>
<tr>
<th>Statement</th>
<th>Yes-Significantly (5)</th>
<th>Yes-Moderately (4)</th>
<th>Not sure (3)</th>
<th>No-didn’t help enough (2)</th>
<th>No-Detrimental (1)</th>
<th>mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do you think using LR has helped you to achieve better course performance?</td>
<td>4 (22.2%)</td>
<td>8 (44.4%)</td>
<td>6 (33.3%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>3.89</td>
</tr>
<tr>
<td>2. Do you think using LR makes the course easier for you to learn?</td>
<td>2 (11.1%)</td>
<td>13 (72.2%)</td>
<td>2 (11.1%)</td>
<td>1 (5.6%)</td>
<td>0 (0%)</td>
<td>3.89</td>
</tr>
<tr>
<td>3. Do you think LR will influence your learning habit?</td>
<td>2 (11.1%)</td>
<td>10 (55.6%)</td>
<td>3 (16.7%)</td>
<td>3 (16.7%)</td>
<td>0 (0%)</td>
<td>3.61</td>
</tr>
<tr>
<td>4. Do you satisfy on the use of LR?</td>
<td>1 (5.6%)</td>
<td>12 (66.7%)</td>
<td>2 (11.1%)</td>
<td>3 (16.7%)</td>
<td>0 (0%)</td>
<td>3.61</td>
</tr>
</tbody>
</table>

In order to test the research hypotheses, respondents were asked to indicate their perception of using lecture recording. Based on the overall mean of the first two statements in Table 4.3 was 3.89, it is apparent that respondents showed an obvious positive perception of using lecture recording in their learning. This result confirmed that H1: ‘The usage of lecture recording will contribute positively for overseas students’ learning’ is true. In addition, more than 70% of respondents were satisfy on
the use of lecture recording. Moreover, H2: ‘The usage of lecture recording will influence overseas students’ learning habit’ was also verified as true by the mean (3.61) of statement 3. However, these findings have not been described in previous literatures.

4.2.3 Pattern of Using Lecture Recording

In order to assess the pattern how overseas student use lecture recording, participants were asked to indicate the frequency, strategy and place of using lecture recording.

Figure 4.2: Data on frequency and strategy of using lecture recording

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Almost always</td>
<td>1</td>
<td>5.6</td>
<td></td>
</tr>
<tr>
<td>Frequently</td>
<td>10</td>
<td>55.6</td>
<td></td>
</tr>
<tr>
<td>About half of the time</td>
<td>1</td>
<td>5.6</td>
<td></td>
</tr>
<tr>
<td>Sometimes</td>
<td>4</td>
<td>22.2</td>
<td></td>
</tr>
<tr>
<td>Rarely or almost never</td>
<td>2</td>
<td>11.1</td>
<td></td>
</tr>
</tbody>
</table>

As shown in Figure 4.2, more than half of respondents reported that they listened to the recordings frequently, followed by sometimes (22.2%) and rarely or almost never use it (11.1%). In contrast, only 1 respondent used lecture recording almost always.
Moving to the results on the strategy of using lecture recording, it can be clearly seen that most respondents (55.6%) chose option: listened to part of a recording as their strategy by contrast with 27.8% of respondents would like to listen to whole recording while only 3 respondents may listen to the key points or summary of the recording. Although these results are differing from some published studies (Gosper et al., 2007; McGarr, 2009; Traphagan, Kucsera & Kishi, 2010), they are consistent with Frydenberg (2008) who found most of the students would not like to listen to an entire recording of a lecture that they had already heard.

Figure 4.3: Data on the place of using lecture recording

<table>
<thead>
<tr>
<th>Place</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>In class</td>
<td>7</td>
<td>25.0</td>
</tr>
<tr>
<td>At home</td>
<td>15</td>
<td>53.6</td>
</tr>
<tr>
<td>On board</td>
<td>2</td>
<td>7.1</td>
</tr>
<tr>
<td>Out of doors</td>
<td>2</td>
<td>7.1</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>7.1</td>
</tr>
</tbody>
</table>

In Figure 4.3, it clearly showed that using lecture recording at home was chosen most by respondents (15 times), followed by in class (7 times) in Q10, a multiple-choice question. This also accords with our earlier observations in Chapter 2, which showed that a large proportion of the students were more likely to watch lecture recording by using their own PC at home (Copley, 2007; Evans, 2008; Gribbins, 2007; Tynan & Colbran, 2006). In comparison, few respondents used lecture recording in the outside or on board. In addition, two respondents provided another place they usually used which was not included in options given, that is, in office, during their working hours.

4.2.4 Influencing Factors of Using Lecture Recording

In order to measure the weakness of lecture recording, all 44 respondents were asked
to indicate the factors that can influence them use it. The results were shown in Table 4.4 and were measured in frequency, percentage and the value of mean.

Table 4.4: Summary of influencing factors of using lecture recording

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strong agree (5)</th>
<th>Agree (4)</th>
<th>Neutral (3)</th>
<th>Disagree (2)</th>
<th>Strong disagree (1)</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Unaware service available</td>
<td>11 (25.0%)</td>
<td>9 (20.5%)</td>
<td>12 (27.3%)</td>
<td>7 (15.9%)</td>
<td>5 (11.4%)</td>
<td>3.32</td>
</tr>
<tr>
<td>2. Limited knowledge of how to use it</td>
<td>2 (4.5%)</td>
<td>17 (38.6%)</td>
<td>8 (18.2%)</td>
<td>7 (15.9%)</td>
<td>10 (22.7%)</td>
<td>2.86</td>
</tr>
<tr>
<td>3. Technical/access issue</td>
<td>1 (2.3%)</td>
<td>13 (29.5%)</td>
<td>15 (34.1%)</td>
<td>6 (13.6%)</td>
<td>9 (20.5%)</td>
<td>2.80</td>
</tr>
<tr>
<td>4. Poor recording quality</td>
<td>1 (2.3%)</td>
<td>15 (34.1%)</td>
<td>15 (34.1%)</td>
<td>8 (18.2%)</td>
<td>5 (11.4%)</td>
<td>2.98</td>
</tr>
<tr>
<td>5. Long buffering time/big file size</td>
<td>1 (2.3%)</td>
<td>18 (40.9%)</td>
<td>18 (40.9%)</td>
<td>4 (9.1%)</td>
<td>3 (6.8%)</td>
<td>3.23</td>
</tr>
<tr>
<td>6. Do not prefer the performance style of recording</td>
<td>5 (11.4%)</td>
<td>10 (22.7%)</td>
<td>19 (43.2%)</td>
<td>7 (15.9%)</td>
<td>3 (6.8%)</td>
<td>3.16</td>
</tr>
<tr>
<td>7. Do not interested in it</td>
<td>5 (11.4%)</td>
<td>9 (20.5%)</td>
<td>11 (25.0%)</td>
<td>16 (36.4%)</td>
<td>3 (6.8%)</td>
<td>2.93</td>
</tr>
<tr>
<td>8. Do not aid in study</td>
<td>3 (6.8%)</td>
<td>2 (4.5%)</td>
<td>17 (38.6%)</td>
<td>18 (40.9%)</td>
<td>4 (9.1%)</td>
<td>2.59</td>
</tr>
</tbody>
</table>

8 statements of possible influencing factors have been provided as detailed information in the above table. It is obviously that the most significant influencing factor was unaware service available (mean=3.32), followed by long buffering time/big file size and do not prefer the performance style of recording at the mean of 3.23 and 3.16 in that order. On the other hand, due to only accounting for the mean of 2.59, do not aid in study was the minimum influencing factor related to the usage of lecture recording. In addition, technical/access issue, at the mean of 2.80, was another factor with low-level agreement from respondents’ perspective. Moreover, H3: ‘Limited awareness of lecture recording will easily contribute overseas students do not
use the recording than recording quality issues’ was confirmed successfully by comparing the mean of statement 1 (3.32) and statement 4 (2.98). However, there was no significant difference between these two statements. Poor recording quality, as one major influencing factors of using lecture recording, was also mentioned by nearly 40% of respondents.

Figure 4.4: Data on favourite learning materials

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video podcasts</td>
<td>19</td>
<td>24.7</td>
</tr>
<tr>
<td>Audio podcasts</td>
<td>10</td>
<td>12.9</td>
</tr>
<tr>
<td>Slide</td>
<td>18</td>
<td>23.4</td>
</tr>
<tr>
<td>Traditional handouts (power point handouts)</td>
<td>27</td>
<td>35.1</td>
</tr>
<tr>
<td>No preference</td>
<td>3</td>
<td>3.9</td>
</tr>
</tbody>
</table>

In order to achieve a general concept of the usage of different learning materials, all respondents were asked to indicate their preference in the final part of the questionnaire. In Figure 4.4, it can be seen that traditional handout was still the most important materials to assist students in learning which was selected 27 times by respondents. It is followed by video podcast and slide which was chosen 19 and 18 times respectively. These results are consistent with the findings of Lazzari (2009), it indicated that students may have a positive view of the use of lecture recording but they are more likely to use handout notes rather than recording during their revision.
Interestingly, relative to audio podcast, video podcast was more popular by respondents. The possible reasons will be discussed in the following section.

4.3 Discussion

Both quantitative and qualitative data are interpreted in this section. As the results of questionnaire shows, the overall perception of the usage of lecture recording was significantly positive. However, although participants’ responses reflected positive viewpoints of using lecture recording in their learning, more than half of respondents still did not use it. Thus, based on the research findings, both benefits and barriers of lecture recording are discussed into four aspects.

4.3.1 Experience of Using Lecture Recording

4.3.1.1 Main reason of using lecture recording

The results of the questionnaire indicated that face to face lesson was still considered as the main learning approach from students’ viewpoint. However, it can be enhanced by using lecture recording. For example, as Table 4.2 shows, more than half of respondents preferred classroom lecture rather than lecture recording. However, nearly 90% of respondents also indicated that using lecture recordings were able to help them study course easier. There are several possible explanations for why overseas students use lecture recording. First of all, lecture recording can be used as an effective supplementary material to help students to review. The mean of this statement was up to 4.17 in Table 4.2, and it was also mentioned by nearly all interview participants. For instance:

‘...I will use lecture recording for review when I cannot recall an important concept or found somewhere I do not understand...’ (Int.3, IM).

This is in line with the study of Franklin et al. (2011), which showed that most respondents reported that they usually use recording to improve class notes and to clarify complex concepts in order to get in depth understanding of lecture content.
Secondly, due to the flexibility and accessibility of lecture recording, it can also be used as a substituted tool for the traditional lecture especially when students cannot attend the class. Two participants supplemented that:

‘...When I am sick resulting in I cannot attend class, lecture recording will be a useful tool for my learning...’ (Int.5, IM).

‘...When I missed the class due to family commitments or time clash, I can use lecture recording to review the whole lecture...’ (Int.2, EC).

This result was also supported by the quantitative results, that is, approximately 90% of respondents either strongly agree or agree that they used lecture recording to make up for their missed lecture. This finding is similar to the survey of Gosper et al. (2008) who indicated that 83.4% of students use lecture recording as a backup when they missed the class.

Moreover, lecture recording allows students to study at their own pace and encourages them to take responsibility of their own learning (mean=4.11). It is particularly useful for those international students who may have language barriers and difficulties in comprehending in class, as a participant said:

‘...Because sometime, I cannot follow lecturer’s pace, in other words, I cannot understand what they want to express because of my language barrier. Thus, I would like to use recording to repeat the lecture and help me to have a better understanding...’ (Int.5, IM).

4.3.1.2 Main pattern of using Lecture recording

From the data in Figure 4.2, it showed that 55.6% of respondents indicated they listened to part of a recording in comparison with 27.8% of respondents listened to all of a recording. This result is in line with Soong et al. (2006) who noted that 48.3% of students watch selected part of recording while another 29.2% view the whole recording. A possible explanation for this might be that for most students, the main purpose of using lecture recording is only to review part or certain content of a class,
as a participant indicated:
‘...Because I use it only when I cannot remember an important point, thus, I only occasionally use it to focus on part of a recording...’ (Int.3, IM).

In addition, an interviewee pointed out that long playback time of a recording is another important reason leads to students prefer to listen to a part of the recording. In addition, she also indicated that the reason of using lecture recording with different strategies as below:
‘...it dependents on different situations, if I missed all lesson, I will listen to all lecture recording. On the contrary, if I only miss some points or want to review difficult concepts, I will listen to part of recording...’ (Int.4, IM).

With regard to the frequency of using lecture recording, the data of Q8 showed that 55.6% of respondents were using lecture recording frequently, followed by using it sometimes (22.2%). On the other hand, qualitative research aimed to explore the specific time when students will use lecture recording. The findings seem to be consistent with several earlier studies which found that respondents basically use lecture recording during their study time, especially after the class or before the exam. This is also in line with one of the main reasons of using lecture recording: to review and revise. Two participants were in support to this finding:
‘...Usually, I listened to part of lecture recording after the class and before the exam...’ (Int.1, IM).
‘...I would like to watch it at home after the class in order to check my notes and supplement my missing. In addition, it will be used more than usual before the exam...’ (Int.2, EC).

Moreover, as shown in Figure 4.3, most students were more likely to use lecture recording at home, followed by in class. This result was also supported by the qualitative data received, and two participants showed the reasons why they are more likely to use recording at home.
‘...In general, I use it at home, because I do not have an appropriate tool to use it outside...’ (Int.3, IM).

‘...I will definitely use it at home, because it may be inconvenient if I use it in other places such as in library or on board, in other words, I need to bring additional equipments such as earphone to listen it...’ (Int.4, IM).

Interestingly, the responses from interview 3 support the findings of Williams and Fardon (2007a) in a different light, which indicated that students who have portable media were less likely to use lecture recording at home.

However, a participant showed an opposite viewpoint as follows:

‘...I usually used it in library, because there is no appropriate supporting software in my PC and I do not want to install this specific software due to its size...’ (Int.1, IM).

Thus, it can be assumed that the convenience and accessibility of lecture recording is able to determine the place in which student are likely to use lecture recording.

4.3.2 Influencing Factors of Using Lecture Recording

Despite there are a number of advantages of using lecture recording, more than half of respondents still did not use lecture recording in this research. Based on the finding of the questionnaire, there are some significant factors which can affect student using lecture recording. Firstly, students do not know the existence of lecture recording. This is possible because the university did not do enough introduction of lecture recording to students. This influencing factor was also highlighted mentioned by all interviews, even those interviewees who used lecture recording. For example:

‘...I knew it because I found someone installing video equipment in the classroom, but as I know, most of my mates they do not know lecture recording... ’ (Int.1, IM).

‘...I do not use it because I do not know this stuff at all, and so do they (her classmates), I do not remember that lecturer has mentioned it or not in the class...’ (Int.4, IM).
In addition, long buffering time /big file size and poor recording quality was the other two important influencing factors. Three participants supported this finding:

‘...If the file size is too large may cost me a lot of time, I will do not use it due to it is so inconvenient... ’ (Int.1, IM).

‘...Poor sound quality is the crucial factor for me of whether or not using it. If I cannot clearly hear what lecturer said, it is useless... ’ (Int.3, IM).

‘...Long buffering time makes me feel bored and sometimes I cannot listen to lecturer’s sound clearly... ’ (Int.5, IM).

Moreover, finding from interviews showed that some students may do not pay attention to the lecture recording because they attended class regularly. For instance, one participant indicated that:

‘...I think it is because they attend class frequently. They are not interested in lecture recording, because they already have lecture notes ... ’ (Int.3, IM).

It supports the evidence collected from the questionnaire that more than 30% of respondents do not interested in lecture recording. Beside, these results are consistent with precious studies which found that students do not listen to recording due to they attended lecture regularly or the recording is too long and boring (Nataatmadja & Dyson, 2008 & Tynan & Colbran, 2006).

Furthermore, based on the results of Q12, it can be seen that traditional handout is the most favourite learning material for nearly all respondents. It seems possible that this finding is due to limited awareness of lecture recording among students. In addition, most of the students are more accustomed to the traditional learning method, in other words, personal study habits can affect the usage of lecture recording. For example:

‘...I do not think audio recording can help me a lot. It is hard for me to catch the key points only by listening. I prefer visuals. So video recording may be better... ’ (Int.1, IM).
‘...I like power point handouts more than recording, because I am used to read written-materials which are less time consuming to learn compare with using lecture recording...’ (Int.4, IM).

A participant showed an opposite viewpoint as follows:
‘...I think I will like recording most, because sometimes only some key points listed in hand-outs which do not capture all content what lecturer said in class. In addition, for me, it may be easier to remember key points through listening rather than reading...’ (Int.2, EC).

4.3.3 Perception of Using Lecture Recording

In despite of a number of respondents reported that they did not use lecture recording, nevertheless, interestingly, it can be seen that nearly all respondents give a positive perception to the usage of lecture recording. This may be because lecture recording can give students special benefits what cannot be given by other learning tools. As shown in Table 4.3, approximately 70% of respondents considered that lecture recording can help them to achieve a better course performance. Likewise, more than 80% of respondents indicated that using it can make course easier for them to learn. This is in line with the research of Preston et al. (2010) which found that most of respondents agreed that using recordings helped them to achieve better results.

However, as two interviewees indicated:
‘...I think lecture recording can give a lot of help to us. Although I do not think it may influence my final result greatly, but it is good to review, besides, I do not need to record the lecture by myself, thus, I wish department can provide as more lecture recording as possible...’ (Int.1, IM).
‘...In some extent, I think it can help me to learn. It may help me to revise; however, I do not think it have serious influence on my grade...’ (Int.3, IM).

According to the above responses, although participants did not agree that using
lecture recording can influence their final result greatly, they at least believed that lecture recording can help them easier to learn.

In addition, based on the mean of statement 3 in Table 4.3, it can be seen that using lecture recording can affect the learning habit of respondents. It can therefore be assumed that the learning habit of students may change along with continued developing educational technology and increasing complex daily life. This result was also supported by interviews. For example:

‘...I think it will affect my learning habit to a certain extent, for example, I will prefer self-study on my own pace and it also gives me an excuse for not attending to class...’ (Int.1, IM).

‘...It may have an impact on my learning habit, but not too much, and it will not be the absolute reason for me not attending to class...’ (Int.2, EC).

However, one interviewee showed an opposite view on it:

‘...I do not think it can influence my learning habit. For me, it just an assistant tool. I will attend lecture as usual. In comparison with lecture recording, I can ask questions anytime in the class...’ (Int.3, IM).

4.3.4 Comments of Lecture Recording

Based on the pre-findings, this survey collected the comments and advices of lecture recording from participants through the interviews. To enhance the introduction of lecture recording is one of the major comments. Interviewees seemed to be quite emphasized that the university needs to force them to recognize lecture recording. For example:

‘...I think lecturer needs to tell us about this service in the first class or marked it on our module outline. The more we know, the more people want to use... ’ (Int.1, IM).

‘...In my opinion, lecturer needs to emphasize this service repeatedly, because if they just mentioned it once in class or an email, and we missed, then we have no way to know it. In addition, I hope my school can provide more courses lecture recording,
because it is hard to get my attention if only have one...' (Int.4, IM).

In addition, they also mentioned the importance of recording quality while indicted that they preferred to see a recording with both lecturer and PowerPoint slides. For example:

‘...I wish I can see all, including lecturer themselves, Power Point slide and blackboard in a video recording. Because sometimes lecturer may write something on the blackboard, and if I cannot see, I will worry about whether I missed...' (Int.1, IM).

‘...I would like to see both lecturer and slides which may make me feel interacting with the class ...' (Int.2, EC).

This finding corroborates the ideas of Williams and Fardon (2007b), who showed that almost 75% of students prefer recordings with video material and the lecturers themselves. However, there was an opposite opinion from an interviewee as follows:

‘...Although I do not have any other requirements about the lecture recording, I do not want to record students’ voice in recording. Because for me, it is just a supplement, thus, no matter what performance recording is, I do not feel interacting with class...' (Int.3, IM).

Moreover, respondents proposed to add subtitles and do a editing to each video recording which has not been described in previous literatures. Subtitles can not only help overseas students to understand lesson better, but also to relieve the sound quality issues of lecture recording. Furthermore, one participant also indicated that lecture recording can be uploaded directly to the website which can resolve the player software issues. That is,

‘...I would suggest adding subtitles in lecture recording, this may help me more. Lecturer also can do a video editing. For example, the cues will appear in the video when met the key points. In addition, I think that lecturers can upload recording directly to the YouTube, it seems more convenient than downloading player software...' (Int.3, IM).
4.4 Conclusion

To sum up, the research findings were described and discussed in this chapter. Most of the respondents showed an obvious positive perception of using lecture recording on their learning, meanwhile, barriers still exist when using it. In the final chapter, the conclusions and limitations of this research, as well as suggestions and recommendations for future research will be given.
Chapter 5
Conclusions and Recommendations

5.1 Introduction
In the final chapter, the main conclusions with regard to the research objectives will be summarised. In addition, the suggestions will be given based on the research findings, followed by research limitations and recommendations for further research.

5.2 Conclusions
With the growing diversity of student population, international students play an important role in each university nowadays. In order to support different student groups’ learning more flexibly and effectively, lecture recording system has been applied to the University of Sheffield. This paper has investigated the application and impact of lecture recording on overseas student learning. For clarity, four research objectives are restated as follows:

5. To discover the main reason why overseas student use lecture recording.
6. To investigate the main pattern how overseas student use lecture recording.
7. To determine the perception of using lecture recording among overseas student.
8. To investigate the main factor that can influence overseas student use lecture recording.

One important objective of this study is to determine the perception of using lecture recording from overseas student. The result has shown that almost all respondents have a positive perception of lecture recording. As details indicated, students agreed that lecture recording can help them learning easier, to review and revise course work effectively and eventually to achieve a better course performance. In addition, the majority of respondents felt satisfied with the usage of lecture recording, meanwhile,
they pointed out that using recordings may possible influence their learning habits. However, it has hardly satisfied everybody, few students indicated that lecture recording do not help them enough, especially part-time students.

As for the main reasons why overseas student use lecture recording, it seems that they usually use it for reviewing and revising the course. In addition, to make up for missed lecture and to study at own pace were the other two major reasons of using lecture recording. Although face to face lesson was still considered as the main learning approach for most students, undoubtedly, lecture recording can help them to overcome language barriers and to fill the gap between their studies and complex lives. With regard to the pattern of using lecture recording, a great number of respondents indicated that they listened to part of lecture recording frequently. The possible reason for this may be because most of the students use it just to recall part of lesson or some important content. In addition, many participants reported that they prefer to use it at home rather than out of the door.

Another important objective of this research is to investigate the main factors that can influence overseas student use lecture recording. Based on the findings, it has shown that more than half of participants did not use lecture recording because they did not know this service. Limited awareness of lecture recording leads to low usage rate of lecture recording. In addition, recording quality, performance style of recording and individual learning habit can also affect the usage of lecture recording. Furthermore, this survey has collected students’ comments of lecture recording, and these findings will make some contributions to the further recording system improvement. In general, this research provided insights into the reason, pattern, perception and influencing factors of using lecture recording. These findings can be used as a guide to help the university improving the lecture recording system and service.

5.3 Suggestions

Based on the research findings, some suggestions can be given to the university and
academic staffs. First of all, the results of this study found that most of the students did not use lecture recording because they did not know it, thus, it is necessary to enhance the introduction of lecture recording. Academic staffs need to emphasize this service repeatedly to ensure that students are made fully aware of lecture recording and the way to access them. In addition, it will be useful to provide guidance in regard to the strategy of lecture recording management to each department in the university, which will be able to help academic staffs to better manage this service.

Moreover, findings of this study suggested that lecture recording will be more popular if it contains at least two parts: lecturers themselves and PowerPoint slides. Likewise, if lecturers can speak clearly, it will give overseas students more help. Furthermore, it seems that adding subtitles to the lecture recording is a good way to relieve the recording’s sound quality issues and to help overseas students overcome the language barriers. Similarly, it will be useful to add signs and cues to different parts of a recording in order to help students to select the parts which they would like to review with a minimum of time.

5.4 Research Limitations

There are several limitations in this study need to be acknowledged. Firstly, due to the sample size, it can be seen that generalisation is one weakness of this research. Lecture recording has been used in few departments at the University of Sheffield, thus, this research cannot get more information from students. In addition, researcher is doing this research as a master dissertation, which means, the sample size will be limited by the ability of researcher. Therefore, the size and diversity of research sample were relatively small. It cannot be considered that the result is suitable for all institutions. However, if other institutions wish to examine the usage of lecture recording among their overseas students, the findings of this research can be a guideline for them.

Moreover, due to time constraint, the number of pilot test of this research was lower.
Because pilot test relates to the reliability and validity of the questionnaire, thus, insufficient tests might have influenced the credibility of the research result. Furthermore, the time issue also results in lower response rate that leads to a greater risk of bias of the findings (Bryman, 2004). As we know, high response rate will make the results more conclusive. Consequently, the findings of this research might not be applied to the whole research population but can only be applied to those who responded the questionnaire.

The final weakness is associated with the interviews. Imperfect English skills may result not only in misunderstanding and confusing during the interview, but difficult to carry out more in-depth discussion with the interviewees; likewise, it also causes researcher to get a lot of useless results. However, in order to lessen language barriers, a series of preparation has been done in advance and the details of each important question have been provided explanation during the interview. Nevertheless, it still found that some interviews were filled with irrelevant and confused answers.

5.5 Recommendations for Future Research
Based on the objectives of this research, the research population only includes overseas students at the University of Sheffield. Thus, it would be interesting to assess a wider population in future research. It may get various results from different segments of research population. In addition, in order to alleviate time clash, the survey should be undertaken from June, even earlier in each academic year. This is because all students are still in class in that time which may help research to get a high response rate of the questionnaire.

Moreover, the findings of this research are beneficial to both students and academic staffs. However, in this research, only students were invited to participate to the survey. Therefore, it might achieve different viewpoints and findings if academic staffs can also be invited to the research. Furthermore, it would be interesting to compare lecture recording usage experience in different modules or different demographic background.
These results can be used to determine further factors that can influence student use of lecture recording.

Lastly, this study just viewed a general picture of the application and impact of lecture recording on overseas student learning. That is, the research did not focus on specific departments. Therefore, future research might investigate the application of lecture recording in some selected departments and compare their findings. It is noted that qualitative interviews will be more suitable for data collecting if the sample size of future research is small, due to it can more easily get detailed in-depth data (Denscombe, 1998).

Word counts: 12630
Bibliography


Canberra, Australian Capital Territory: DEST.


APPENDIX A

Questionnaire

My name is MEILING YIN. I am a postgraduate student conducting a survey on the application and impact of lecture recording in overseas student learning at the University of Sheffield as part of my dissertation. The main objectives of this study are to understand the experience of using lecture recording in overseas students learning, to explore the reasons and patterns of using lecture recording.

The participants of this research would be ideal including both postgraduate and undergraduate overseas students in the University of Sheffield, especially those who are studying in Information School and Health department.

If you agree to participate, this questionnaire should take you about 5 minutes to complete. Ethical approval has been granted for this research in accordance with the University Research Ethics policy. Your responses will be guaranteed confidentiality. However, please read instructions and questions carefully. Thank you in advance for an attempt to complete this survey. To take part in this survey, please follow the link below:

https://docs.google.com/a/sheffield.ac.uk/spreadsheet/viewform?formkey=dHpaNU5v9LMzUyZUx1SmsxMDAxODA2MjUcMQ

Part I: Student demographic information

1. Title of course enrolled in:

2. Gender:
   - Male
   - Female

3. Age:
   - 18 - 21
   - 22 - 25
   - 26 - 29
   - Other:

4. Enrolment status:
   - Full time
   - Part time

5. Do you use lecture recording for your course learning:
   - Yes
   - No (directly turn to Part IV)

Continue →
Part II: experience of using lecture recording

6. Why do you use lecture recording:

<table>
<thead>
<tr>
<th>Reason</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prefer recordings than face to face lesson</td>
<td></td>
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<tr>
<td>To revise and review</td>
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<tr>
<td>Make-up for missed lecture</td>
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<tr>
<td>To study at own pace</td>
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<tr>
<td>To control on place and time of study</td>
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<tr>
<td>Difficulties in hearing or taking notes in class</td>
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</tbody>
</table>

Other, please specify:


7. In general, what are your perceptions about the lecture recording:

<table>
<thead>
<tr>
<th>Perception</th>
<th>Yes-significantly</th>
<th>Yes-moderately</th>
<th>Not sure</th>
<th>No-didn’t help enough</th>
<th>No-detrimental</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you think using LR has helped you to achieve better course performance?</td>
<td></td>
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<tr>
<td>Do you think using LR makes the course easier for you to learn?</td>
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<tr>
<td>Do you think LR will influence your learning habit?</td>
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<tr>
<td>Do you satisfy on the use of LR?</td>
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<td></td>
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</table>

Part III: using pattern of lecture recording

8. How often did you use lecture recording:

- Almost always
- Frequently
- About half of the time
- Sometimes
- Rarely or almost never
9. How did you use lecture recording?
- Listened to part of a recording
- Listened to all of a recording
- Listened to key points/summary of a recording
- Other: 

10. Where did you often use lecture recording (you can choose more than one option):
- In class
- At home
- On board
- Out of doors
- Other: 

![Back] [Continue »]

Part IV: influencing factor of using lecture recording

11. Why do you not use lecture recording:

<table>
<thead>
<tr>
<th>Factor</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strong disagree</th>
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</thead>
<tbody>
<tr>
<td>Unaware service available</td>
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<tr>
<td>Limited knowledge of how to use it</td>
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<tr>
<td>Technical / assessment issues</td>
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<td>Poor recording quality</td>
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<td>Long buffering time/big file size</td>
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<td>Do not interested in it</td>
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<tr>
<td>Do not aid in study</td>
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</table>

Other, please specify: 

![- 53 -]
12. What supplementary lecture materials’ format do you prefer (you can choose more than one option):

☐ Video podcasts
☐ Audio podcasts
☐ Slide
☐ Traditional handouts /power point handouts
☐ No preference
☐ Other: ____________

There will follow by a personal interview which may take you about 20 minutes. I would be very delighted and grateful if you are likely to take part in, and please leave your university email address so that I can contact you to discuss the interview schedule. Your contact details will only be used for the purpose of arranging an interview.

[___________]

[Back] [Submit]

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APPENDIX B

Interview Transcripts

Transcripts summary of interviews with a postgraduate student
Programme of Study: Information management
Interview date: 27-07-2012

Interview 1

How do you know about lecture recording?
I knew it because I found someone installing video equipment in the classroom, but as I know, most of my mates they do not know lecture recording.

What is your view on the use of lecture recording?
I think lecture recording can give a lot of help to us. Although I do not think it may influence my final result greatly but it is good to review, besides, I do not need to record the lecture by myself, thus, I wish department can provide as more lecture recording as possible.

What time, place and strategy do you use lecture recording?
Usually, I listened to part of lecture recording after the class and before the exam. And I usually used it in library, because there is no appropriate supporting software in my PC and I do not want to install this specific software due to its size.

Do you think lecture recording may affect your learning habit? Which learning materials do you more prefer?
I think it will affect my learning habit to a certain extent, for example, I will prefer self-study on my own pace and it also gives me an excuse for not attending to class. In addition, I think the power point handout is more important which I can take notes while I am watching it. I do not think audio recording can help me a lot. It is hard for me to catch the key points only by listening. I prefer visuals. So video recording may
be better.

What factors might affect you using lecture recording? What comments do you have about lecture recording?
If the file size is too large may cost me a lot of time, I will do not use it due to it is so inconvenient. And the publicity of lecture recording is not enough; we can easily ignore it due to only few times lecturer mentioned it. For comments, firstly, I think lecturer needs to tell us about this service in the first class or marked it on our module outline. The more we know, the more people want to use. In addition, I wish I can see all, including lecturer themselves, Power Point slide and blackboard in a video recording. Because sometimes lecturer may write something on the blackboard, and if I cannot see, I will worry about whether I missed.

OK. Thank you.
Interview 2

Why do not you use lecture recording?
Because I do not know it is available. Lecturers did not introduce it as well as module outlines. My department did not publicise it enough.

Ok, if you know it, do you use it? Why?
I definitely want to use it because it can help me to learn. When I missed the class due to family commitments or time clash, I can use lecture recording to review the whole lecture. In addition, it can remind me the part of content I missed at any time.

What time, place and strategy do you use lecture recording?
I would like to watch it at home after the class in order to check my notes and supplement my missing. In addition, it will be used more than usual before the exam.

Do you think lecture recording may affect your learning habit? Which learning materials do you more prefer?
It may have an impact on my learning habit, but not too much, and it will not be the absolute reason for me not attending to class. I think I will like recording most, because sometimes only some key points listed in hand-outs which do not capture all content what lecturer said in class. In addition, for me, it may be easier to remember key points through listening rather than reading.

What comments do you have about lecture recording?
Firstly, I think school needs to emphasize this service in order to let more students know it. For example, lecturers should introduce it at the beginning of the first class. In addition, I would like to see both lecturer and slides which may make me feel
interacting with the class. Moreover, quality of recording both sound and visual is important otherwise it is useless. Finally, I hope more modules can provide lecture recording and add subtitles in them, this may help international students more.

OK. Thank you.
Transcripts summary of interviews with a postgraduate student
Programme of Study: Information management
Interview date: 03-08-2012

Interview 3

**How do you know about lecture recording?**
I heard it from class. However, as I know, most of classmates do not know lecture recording. I think it is because they attend class frequently. They are not interested in lecture recording, because they already have lecture notes.

**What is your view on the use of lecture recording?**
In some extent, I think it can help me to learn. It may help me to revise; however, I do not think it have serious influence on my grade.

**What time, place and strategy do you use lecture recording?**
I will use lecture recording for review when I cannot recall an important concept or found somewhere I do not understand. Because I use it only when I cannot remember an important point, thus, I only occasionally use it to focus on part of a recording. In general, I use it at home, because I do not have an appropriate tool to use it outside.

**Do you think lecture recording may affect your learning habit? Which learning materials do you more prefer?**
I do not think it can influence my learning habit. For me, it just an assistant tool. I will attend lecture as usual. In comparison with lecture recording, I can ask questions anytime in the class. In general, I think the power point handout is more important. I can take notes when I am in class, then using them to revise my course. However, lecture recording is just an assisting tool. I will watch the video only I do not understand part of hand-out. But I think the recording is more authoritative, this means it can playback the entire content of class accurately.
What factors might affect you using lecture recording? What comments do you have about lecture recording?

Poor sound quality is the crucial factor for me of whether or not using it. If I cannot clearly hear what lecturer said, it is useless. Although I do not have any other requirements about the lecture recording, I do not want to record students’ voice in recording. Because for me, it is just a supplement, thus, no matter what performance recording is, I do not feel interacting with class. However, I would suggest adding subtitles in lecture recording, this may help me more. Lecturer also can do a video editing. For example, the cues will appear in the video when met the key points. In addition, I think that lecturers can upload recording directly to the YouTube, it seems more convenient than downloading player software.

OK. Thank you.
Transcripts summary of interviews with a postgraduate student  
Programme of Study: Information management  
Interview date: 08-08-2012 

**Interview 4**

**Why do not you use lecture recording?**  
I do not use it because I do not know this stuff at all, and so do they (her classmates), I do not remember that lecturer has mentioned it or not in the class. If I know it, I do not think it can attract my attention, because I attend class regularly. In addition, I do not want to use it because the recording is too long and I need to spend lots of time to download the player software. It is so inconvenient.

**Ok, if you know it, what time, place and strategy will you use lecture recording?**  
I will use it when I review the module or make-up missed class. About strategy, it depends on different situations, if I missed all lesson, I will listen to all lecture recording. On the contrary, if I only miss some points or want to review difficult concepts, I will listen to part of recording. And I will definitely use it at home, because it may be inconvenient if I use it in other places such as in library or on board, in other words, I need to bring additional equipments such as earphone to listen it.

**Do you think lecture recording may affect your learning habit? Which learning materials do you more prefer?**  
I think it can be a reason that I do not go to the class. However, I would prefer self-study sometimes. In addition, I like power point handouts more than recording, because I am used to read written-materials which are less time consuming to learn compare with using lecture recording.

**What comments do you have about lecture recording?**  
In my opinion, lecturer needs to emphasize this service repeatedly, because if they just mentioned it once in class or an email, and we missed, then we have no way to know
it. In addition, I hope my school can provide more courses lecture recording, because it is hard to get my attention if only have one. In addition, although I do not use it yet, I still wish more courses can provide lecture recording. It can offer one more choice to me and I can use it when I want to do so. Moreover, I would like to see both lecturer and slide in video recording.

**OK. Thank you.**
Transcripts summary of interviews with a postgraduate student
Programme of Study: Information management
Interview date: 09-08-2012

Interview 5

How do you know about lecture recording?
One time, I found the lecture recording when I check one module materials on Mole2. But, most of my friends they do not know it.

What is your view on the use of lecture recording?
I think it is good for my learning. Because sometime, I cannot follow lecturer’s pace, in other words, I cannot understand what they want to express because of my language barrier. Thus, I would like to use recording to repeat the lecture and help me to have a better understanding. In addition, when I am sick resulting in I cannot attend class, lecture recording will be a useful tool for my learning.

What time, place and strategy do you use lecture recording?
I used it at home, and most of time, I only listened to part of lecture recording. Because it may cost me a lot of time to listen whole recording. The specific time of using it is not determined, however, I usually use it when I want to review my course.

Do you think lecture recording may affect your learning habit? Which learning materials do you more prefer?
I am not sure. To be honest, sometimes I would skip lecture because I can use the recording instead. But I think attending class is better than only watching the lecture recording. I prefer handouts. It is easy to catch the key points which save more learning time.

What factors might affect you using lecture recording? What comments do you have about lecture recording?
Long buffering time makes me feel bored and sometimes I cannot listen to lecturer’s sound clearly. But you know, it is not just a recording issue; if possible I wish that lecturers can speak more clearly and loudly.

OK. Thank you.
APPENDIX C

Participant Information Sheet

Project Title: The application and impact of lecture recording on overseas student learning
You are being invited to take part in a research project. Before you make a decision, it is important
for you to understand why the research is being done and what it will involve. Please take time to
read the following information carefully and discuss it with others if you wish. Ask us if there is
anything that is not clear or if you would like more information. Take time to decide whether or
not you wish to take part. Thank you for reading this.

• The nature and objectives of the project
There are a growing number of international students studying at the University of Sheffield.
Therefore, it is important to support these students learning effectively in each department. The
main objectives of this study are to understand the experience of using lecture recording in
international students’ learning, to explore the reasons and patterns of using it and to get comments
which will be used to help university to improve learning materials. The whole project is taking
place between 1st June 2012 and 31st August 2012.

• The methodology of the project
This research is based on deductive approach and a mixed method will be adopted including both
quantitative (self-completed questionnaire) and qualitative methods (individual semi-structure
interviews). To achieve a general outcome of research through quantitative method, then
investigate the result further by using qualitative method. The questionnaire consisted of 12
questions in four sections which will take you around 5 minutes to complete, and interview will
base on 5 guide questions to discuss the experience of using lecture recording in-depth. Each
interview lasted approximately 20 minutes.

• What participation in the research will require
The participants of this research would be ideal including both postgraduate and undergraduate
overseas students those who are mainly studied in selected departments at the University of
Sheffield.

• The potential risks and inconveniences that may arise
The potential inconveniences are that you need to spend your personal time to complete the
questionnaire, and to coordinate your time in order to attend the interview. In addition, there is a chance that some questions may make you feeling confused, and if you feel confused, you can contact the researcher for explain and illustration.

- The potential benefits that may result
Whilst there are no immediate benefits for those people participating in this project, it is hoped that understanding students’ experience of using lecture recording could provide useful insights to help academics to improve lecture recording system. It may also enhance our understanding as to how this technology could be used to create a more effective learning environment for students.

- Who is undertaking and who is sponsoring the project
This research is being undertaken by Meining Yin who enrolled in MSc Information Management in the University of Sheffield. There is no funding for this research.

In addition, this project has been ethically approved via the Information School's ethics review procedure in accordance with the University of Sheffield Research Ethics Policy. The nature of participation must be voluntary and participants have the right to withdraw partially or completely form the process. All the information that we collect about you during the course of the research will be kept confidential and completely anonymous. You will not be able to be identified in any reports or publications. All data will be stored correctly and deleted upon successful completion of the research.

- What to do if something goes wrong
If you feel upset or distressed after taking part in the research, you can contact the researcher, MEINING YIN (myin1@sheffield.ac.uk).
Issues relating to the research can be raised with the project supervisor, Mr. Peter Holdridge (p.g.holdridge@sheffield.ac.uk).
In the unlikely situation that you feel your complaint has not been handled to your satisfaction, you can contact the University's Registrar and Secretary, Philip Harvey (registrar@sheffield.ac.uk , or post: Office of the Registrar and Secretary, Firth Court, Western Bank, Sheffield, S10 2TN)

- Contact for further information
Researcher: Meining Yin: myin1@sheffield.ac.uk
Supervisor: Mr. Peter Holdridge: p.g.holdridge@sheffield.ac.uk

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Title of research project:
The application and impact of lecture recording on overseas student learning

Name and position of researcher:
Meining Yin, MSc Information Management, Information School

1. I confirm that I understood the main objectives for the above study and have had the opportunity to ask questions.

2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving a reason.

3. I agree to take part in the study.

4. I agree to the interview being audio recorded.

5. I agree to the use of anonymised quotes in publications.

Name of participant:
Date:                           Signature:

Name of researcher:
Date:                           Signature:
APPENDIX E

Ethical Application Form

University Research Ethics Application Form
For Staff and Postgraduate Researchers

This form has been approved by the University Research Ethics Committee (UREC)

Tick as appropriate

Complete this form if you are a member of staff or a postgraduate research student who plans to undertake a research project which requires ethics approval via the University Ethics Review Procedure.

or

Complete this form if you plan to submit a ‘generic’ research ethics application (i.e. an application that will cover several sufficiently similar research projects). Information on the ‘generic’ route is at:

[Website URL]

*PLEASE NOTE THAT YOUR DEPARTMENT MAY USE A VARIATION OF THIS FORM: PLEASE CHECK WITH THE ETHICS ADMINISTRATOR IN YOUR DEPARTMENT*

This form should be accompanied, where appropriate, by all Information Sheets / Covering Letters / Written Scripts which you propose to use to inform the prospective participants about the proposed research, and/or by a Consent Form where you need to use one.

Further guidance on how to apply is at: [Website URL]

Guidance on the possible routes for obtaining ethics approval (i.e. on the University Ethics Review Procedure, the NHS procedure and the Social Care Research Ethics Committee, and the Alternative procedure) is at: [Website URL]

Once you have completed this research ethics application form in full, and other documents where appropriate, check that your name, the title of your research project and the date is contained in the footer of each page and email it to the Ethics Administrator of your academic department. Please note that the original signed and dated version of ‘Part B’ of the application form should also be provided to the Ethics Administrator in hard copy.

Ethics Administrators are listed at:
[Website URL]

Date: 21/05/2012
Name of applicant: MEINING YIN
Research project title: The application and impact of lecture recording on overseas student learning
University Research Ethics Application Form

I confirm that I have read the current version of the University of Sheffield ‘Ethics Policy Governing Research Involving Human Participants, Personal Data and Human Tissue’, as shown on the University’s research ethics website at: www.sheffield.ac.uk/ris/other/gov-ethics/ethicspolicy

Part A

A1. Title of Research Project:
The application and impact of lecture recasting on overseas student learning

A2. Contact person (normally the Principal Investigator, in the case of staff-led research projects, or the student in the case of supervised-postgraduate researcher projects):

Title: Miss
First Name/Initials: MEINING
Last Name: YIN
Post: S1 4DP
Department: Information School
Email: mmyinh1@sheffield.ac.uk
Telephone: 07517890136

A2.1. Is this a postgraduate researcher project?
If yes, please provide the Supervisor’s contact details:
Mr. Peter Holdridge: p.g.holdridge@sheffield.ac.uk

A2.2. Other key investigators/co-applicants (within/outside University), where applicable:
Please list all (add more rows if necessary):

<table>
<thead>
<tr>
<th>Title</th>
<th>Full Name</th>
<th>Post</th>
<th>Responsibility in project</th>
<th>Organisation</th>
<th>Department</th>
</tr>
</thead>
</table>

A3. Proposed Project Duration:
Start date: 1st June 2012
End date: 31st August 2012

A4. Mark ‘X’ in one or more of the following boxes if your research:

☐ involves adults with mental incapacity or mental illness
☐ involves prisoners or others in custodial care (e.g. young offenders)
☐ involves children or young people aged under 18 years
☐ involves using samples of human biological material collected before for another purpose
☐ involves taking new samples of human biological material (e.g. blood, tissue) *
☐ involves testing a medicinal product *
☐ involves testing new samples of human biological material (e.g. blood, tissue) *
☐ involves additional radiation above that required for clinical care *
☐ involves investigating a medical device *

* If you have marked boxes marked * then you also need to obtain confirmation that appropriate University insurance is in place. The procedure for doing so is entirely by email. Please send an email addressed to insurance@sheffield.ac.uk and request a copy of the ‘Clinical Trial Insurance Application Form’.
University Research Ethics Application Form

A5. Briefly summarise:
   i. The project’s aims and objectives:
      (this must be in language comprehensible to a lay person)
      The main objectives of this study are to understand the experience of using lecture
      recording in international students’ learning, to explore the reasons and patterns of
      using it and to get comments which will be used to help university to improve learning
      materials.
   ii. The project’s methodology:
      (this must be in language comprehensible to a lay person)
      A mixed method will be adopted including both quantitative (self-completed
      questionnaire) and qualitative methods (individual semi-structure interviews) of this
      research. To achieve a general outcome of research through questionnaire, then
      investigate the result further by using interview.

A6. What is the potential for physical and/or psychological harm / distress to
      participants?
      There is no obvious harm to participants. The potential inconveniences are that
      participants need to spend their personal time to complete the questionnaire, and to
      coordinate their time in order to attend the interview.

A7. Does your research raise any issues of personal safety for you or other
      researchers involved in the project? (especially if taking place outside working
      hours or off University premises)
      No
      If yes, explain how these issues will be managed.

A8. How will the potential participants in the project be:
   i. Identified?
      The participants of this research would be ideal including both postgraduate and
      undergraduate overseas students at the University of Sheffield.
   ii. Approached?
      Firstly, the research questionnaires will be delivered to the potential participants by
      email, then, the potential participants those who leaved email address in the last part of
      the questionnaire will be contacted in order to discuss the interview schedule.
   iii. Recruited?
      One way to access participants easily will be using existing contacts. I will contact
      several mates, and obtain more permission of students through their help.
A9. Will informed consent be obtained from the participants?  

YES ☐  NO ☐

If informed consent or consent is NOT to be obtained please explain why. Further guidance is at: www.sheffield.ac.uk/ns/other/gov-ethics/ethicspolicy/policy-notes/consent

The consent form will be used in interview of this research in order to ensure that participants are voluntary to take this research. Researcher is able to respect all right of participants and to ensure that they fully understand the procedures and risks of the research.

A9.1. This question is only applicable if you are planning to obtain informed consent:
How do you plan to obtain informed consent? (i.e. the proposed process?):

The researcher will give an explanation of the research objectives and procedures to interviewees before each interview, then, they will fill in the consent form voluntarily.

A10. What measures will be put in place to ensure confidentiality of personal data, where appropriate?

Interviews were carried out in a quiet, comfortable and encouraged environment which was determined by the researcher and participants. In addition, all data will be stored correctly and deleted upon successful completion of the research.

A11. Will financial / in kind payments (other than reasonable expenses and compensation for time) be offered to participants? (Indicate how much and on what basis this has been decided)

A small gift will be given to the interviewees. (price less than 5 pounds)

A12. Will the research involve the production of recorded media such as audio and/or video recordings?

YES ☐  NO ☐

A12.1. This question is only applicable if you are planning to produce recorded media:
How will you ensure that there is a clear agreement with participants as to how these recorded media may be stored, used and (if appropriate) destroyed?

Consent form will be used to ensure that there is a clear agreement with participants in relation to the recording of the whole process of interview. It will depend on the willingness of participants. Data will only be used to finish the research and, and be stored safely and deleted after the end of the research.

Guidance on a range of ethical issues, including safety and well-being, consent and anonymity, confidentiality and data protection are available at: www.sheffield.ac.uk/ns/other/gov-ethics/ethicspolicy/policy-notes
Title of Research Project: The application and impact of lecture recording on overseas student learning

I confirm my responsibility to deliver the research project in accordance with the University of Sheffield’s policies and procedures, which include the University’s ‘Financial Regulations’, ‘Good Research Practice Standards’ and the ‘Ethics Policy Governing Research Involving Human Participants, Personal Data and Human Tissue’ (Ethics Policy) and, where externally funded, with the terms and conditions of the research funder.

In signing this research ethics application form I am also confirming that:

- The form is accurate to the best of my knowledge and belief.
- The project will abide by the University’s Ethics Policy.
- There is no potential material interest that may, or may appear to, impair the independence and objectivity of researchers conducting this project.
- Subject to the research being approved, I undertake to adhere to the project protocol without unagreed deviation and to comply with any conditions set out in the letter from the University ethics reviewers notifying me of this.
- I undertake to inform the ethics reviewers of significant changes to the protocol (by contacting my academic department’s Ethics Administrator in the first instance).
- I am aware of my responsibility to be up to date and comply with the requirements of the law and relevant guidelines relating to security and confidentiality of personal data, including the need to register when necessary with the appropriate Data Protection Officer (within the University the Data Protection Officer is based in OICS).
- I understand that the project, including research records and data, may be subject to inspection for audit purposes, if required in future.
- I understand that personal data about me as a researcher in this form will be held by those involved in the ethics review procedure (e.g. the Ethics Administrator and/or ethics reviewers) and that this will be managed according to Data Protection Act principles.
- If this is an application for a ‘generic’ project all the individual projects that fit under the generic project are compatible with this application.
- I understand that this project cannot be submitted for ethics approval in more than one department, and that if I wish to appeal against the decision made, this must be done through the original department.

Name of the Principal Investigator (or the name of the Supervisor if this is a postgraduate researcher project):

Peter Holdridge

If this is a postgraduate researcher project insert the student’s name here:

Meining Yin

Signature of Principal Investigator (or the Supervisor):

Date:

Email the completed application form and provide a signed, hard copy of ‘Part B’ to the Ethics Administrator (also enclose, if relevant, other documents).