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Why don't all lecturers make use of VLEs?: what can the so-called "laggards" tell us?

Why Don't All Lecturers Make Use of VLEs? What Can the So-called "Laggards" Tell Us?

A Report submitted by

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Abstract

Virtual learning environments (VLEs) have been almost universally adopted by UK higher education institutions. However, academic staff appear to be less enthusiastic; adoption of VLEs into teaching practices is generally at a much lower level for individual staff. There is an existing body of research on the barriers to the adoption of learning technologies, such as the VLE, with fairly consistent findings. However, none of the existing studies have involved staff who are not using the VLEs; instead they have concentrated on those who have already integrated VLEs into their teaching. The diffusion theories of Rogers, which include a classification of adopters from 'innovators' through to 'laggards', are widely cited in the VLE implementation literature and provide a framework for this research. This report uses a case study approach at a single UK site – the London School of Economics (LSE) – and is based on interviews with five lecturers who are not currently using the institutional VLE. It reveals their strong awareness of the VLE, explores their understanding of its purpose and looks at their reasons for not adopting it. These include: their conception of what the VLE is for, pedagogical considerations and time pressures. The report highlights a concern that certain VLE uses may have a negative impact on students' ability to develop skills that their educators' value. The research strategy used doesn't allow for wider generalisation but provides an important insight into the views and decisions of a group staff not yet reported on.

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Chapter 1: Introduction

1.1 Background

In UK higher education institutions the use of learning technologies - information and communications technologies (ICTs) used for the enhancement of learning, teaching and assessment - is predominantly associated with the virtual learning environment (VLE). VLEs are web-based systems allowing for interactions between learners and tutors (JISC, online). They provide controlled access to learning materials, the opportunity for online communication and assessment, as well as tools for monitoring student usage and progress. Examples of VLEs include Blackboard, WebCT and Moodle. VLEs have been adopted by nearly all UK higher education institutions (Browne et al, 2006) but the available research appears to show that take-up by individual academic staff is more varied and usually lower, with academic staff seemingly less enthusiastic than management and support staff.

Technology adoption models are used widely in the literature on VLE implementation and more general learning technology adoption (Geoghagen, 2004; Bell & Bell, 2005; Keller, 2005; Kirkup & Kirkwood, 2005; Newland et al, 2006; McNaught et al, 2006). These models by their very nature focus on adoption and the processes involved in attaining full adoption. They tend not to deal with non-adoption or non-adopters. The diffusion theories of Rogers are most commonly cited and include a classification of adopters from innovators to laggards.

There has been a lot of research into the barriers faced by academic staff that hinder their adoption of VLEs highlighting a variety of factors (for example, various studies in O'Donoghue, 2006). However all of these studies are with staff who are already using learning technologies or are in the process of incorporating them, reporting the barriers they have faced. There does not appear to be any research with staff who are not using VLEs to find out why not.

1.2 The Research Question

The purpose of this report is to look at lecturers in UK higher education who are not using the institutional VLEs that nearly all institutions have implemented, with a specific aim of uncovering the reasons why they are not incorporating the VLE into their teaching practices. According to one set of adoption theories, technological innovations are "communicated through particular channels over time among members of the social system" (Rogers, 1995, p.10) and are adopted or rejected by individual members based on their perceptions of it. So is there an awareness of VLEs among non-adopters; has the message reached them yet? Or is it the case that non-adopters have considered and decided to reject using a VLE? If so, what are their reasons? This report will attempt to provide some answers to these questions through a study at the London School of Economics (LSE).

1.3 Report Outline

This introduction is followed by a review of the available literature. This includes VLE usage in UK higher education, adoption theories and their critiques, as well as

recent work on barriers to VLE uptake. Chapter 3 presents the methodology and explains why and how a case study approach was taken. The Results chapter then presents the data and provides the initial analysis. In Chapter 5: Discussion, further analysis is presented and the findings are related to theoretical framework of adoption theories. The final chapter summarises the study, highlights its limitations and suggests areas for further work.

Chapter 2: Literature Review

This chapter provides a review of the existing literature on the topic. It starts by looking at the usage and implementation of virtual learning environments in UK higher education. The adoption theories providing the theoretical framework are then covered with a particular focus on Rogers' theories, as they are widely cited. This is followed by a review of the critiques of these theories and the chapter concludes by looking at existing studies on barriers to VLE uptake by academic staff.

2.1 VLEs in Higher Education

There has been widespread investment in, and adoption of VLEs at the institutional level by UK higher education institutions (Kirkup & Kirkwood, 2005). There have been three surveys of VLE usage conducted by the Universities and Colleges Information Systems association (UCISA) and the Joint Information Systems Council (JISC) between 2001 and 2005. In the most recent survey 95% of higher education institutions surveyed were using VLEs (Browne et al, 2006). This adoption of VLEs does not signal a mass move to online course delivery. On the whole, in UK higher education VLEs are being used to support and enhance face-to-face campus-based teaching (Webb, 2004).

While usage of VLEs by staff, students and courses continues to grow significantly (Browne et al, 2006) there is limited data available on the levels of adoption by individual staff. In 2005 VLEs were being used by more than 200 staff at 40% of

Pre-92 universities and 76% of post-92 universities (Browne et al, 2006). This does not however tell us what proportion of university staff are using the VLE. However, a 2005 case study that included two higher education institutions reported staff usage levels of 90% and 44% (Bell & Bell, 2005). In an earlier Canadian study, Cuneo reported that while 80% of Canadian universities had adopted a VLE, the 2001 Mcgraw-Hill Ryerson survey had shown that only 11% of tutors were using the VLE (Cuneo, 2002). More recently but anecdotally, at my own institution, the London School of Economics, which has had a VLE for 6-years, it was used on an estimated 40% of courses (individual modules rather than programmes) in 2006-7.

Data for the level of student usage is more widely available as providing this data is one feature of VLEs. For example, at Oxford Brookes University 83% of students were using the VLE for at least one of their courses in January 2005 (Sharpe et al, 2006) while at Kingston University in the same year a student survey showed that 96% of respondents were using the VLE at least once a week (Heaton-Shrestha et al, 2005). However student data can be deceptive with regard to staff usage if students only make use of the VLE on some of their courses. A study at The Chinese University of Hong Kong reported that in 2003-4 70% of students were VLE users but actually only 45% of courses made use of the VLE (McNaught et al, 2006), suggesting that the proportion of staff using the VLE was much lower than the proportion of students.

It is clear that institutional adoption is widespread and that most students are experiencing some use of VLEs but equally it appears that adoption by staff within these institutions is quite varied and often significantly lower. Furthermore, the above data focuses on the overall institutional perspective and academics could provide a missing part of the VLE picture (Morón-Garcia, 2006). According to McShane the subjective experiences of academics teaching with ICTs is an under-researched area which would be beneficial to explore:

"research into academics' perceptions about the new technologies in teaching and learning could provide useful insights into changing academic roles, and inform university policy on online education and staff development" (McShane 2004, p.5).

Later in this review it will be demonstrated that the perceptions of staff that are not using VLEs in their teaching are also under-represented.

2.2 Adoption & Implementation of Learning Technologies

It has been demonstrated that VLEs have been widely adopted by institutions in UK higher education but less so by individual tutors. In order to be able to explore why some lecturers are choosing not to integrate the VLE into their teaching it is important to consider the driving forces behind VLE adoption and implementation.

There are a number of factors behind the increased investment and usage of learning technologies and VLEs in UK universities. Firstly it is worth noting the general

growth of technology in recent years. There has been a rapid expansion in the use of

ICTs throughout society, particularly in the last ten years or so with the development

of the Internet.

In the higher education sector national strategies are one of the driving forces.

Browne et al report that "E-learning is now on the UK government's national agenda"

(Browne et al, 2006, p.177) and cite the publication of both the Higher Education

Funding Council for England's *HEFCE strategy for e-learning* and the Department

for Education and Skills' strategy document, *Harnessing technology: Transforming*

Learning and children's service to support this. Furthermore at a national level the

requirement for all higher education institutions to have a Learning and Teaching

Strategy has further increased the profile of ICTs in institutions. The planned use of

ICTs as a mechanism to achieve some of these learning and teaching priorities was

common in the strategy documents (Gibbs, 2001 cited in Kirkup & Kirkwood, 2005).

The early use of learning technologies was not, however strategy-driven. Initially

ICTs were introduced by individual enthusiastic tutors but more recently institutional

strategies driven by the national ones have come to the fore. A 2002 international

comparative survey reported:

> "The general picture is that in most cases institutions are now transferring
>
> from a period of rich and mostly bottom-up experimentation to a phase in

which institution-wide use of ICT is being encouraged" (Collis & van der Wende, 2002, p.8).

Part of this institutional drive is connected with the education 'market' (Newland et al, 2006). Some universities have focused their efforts on particular groups – international students for example (Collis & van der Wende, 2002) or on specific aims, such as student retention and have seen ICTs as having an important role in this.

Collis & van der Wende (2002) also concluded that change was slow and not radical. Furthermore they reported that the teaching staff were generally less hopeful and interested in the use of ICTs in teaching than both the management and support staff. So although the use of learning technologies was first championed by (some) teaching staff its wider adoption does not seem to be being led by them.

2.3 Technology Adoption Models

The literature on the adoption and implementation of ICTs into higher education teaching draws regularly on models of technology adoption and in particular on Rogers' diffusion theories. Before this and other models are examined in detail let us consider how and why these models are being used.

Many would agree with Robinson that knowledge of adoption patterns "can help guide expectations and inform strategy" (Robinson, 2001, p.21) and studies of adopter patterns have been used to create recommendations aimed at facilitating

campus-wide adoption of learning technologies (Jacobsen, 2000). At Northumbria University, understanding innovation adoption models was seen as one of the three key influences behind the success of a university-wide implementation of a managed learning environment (Bell & Bell, 2005).

In the past the lack of widespread acceptance and adoption of instructional design and technology has generated interest in looking at models of innovation adoption for possible answers (Burkman, 1987; Geoghagen, 1994). Surry (1997) suggests that the study of the diffusion of innovations is valuable for three reasons. Firstly to help understand why technologies are or are not adopted. Secondly, simply because the field is "inherently an innovation-based discipline" (Surry, 1997, online) it is important to understand the theories of innovation diffusion. Finally, Surry suggests that a better understanding could lead to wider or more effective adoption through the development of a prescriptive, systematic model of adoption.

2.3.1 Rogers' Diffusion Theories

Diffusion theory is a collection of theories. The work of Everett Rogers is the most widely cited. Rogers work, *Diffusion of Innovations*, was first published in 1962 and is now in a fifth edition (Rogers, 2003) and it provides a synthesis of the significant research findings to date. Rogers work is not focused solely on information technology; his work is based on studies from a broad set of fields from agriculture to medicine. However, recently his theories provide the basis for much work on learning technology innovations (Wilson et al, 2001). The theories are based on

information diffusion and rational choice leading to a decision to adopt an innovation or not.

The three theories presented by Rogers that are most widely used and are regularly cited in relation to the adoption of learning technologies are: the Innovation Decision Process, Rate of Adoption and Individual Innovativeness.

Innovation-Decision Process

The first theory presented by Rogers suggests that the adoption of an innovation is not a single step but a process that individual adopters go through (See Figure 1). The decision to adopt or reject an innovation is the third step. Prior to that, a potential adopter will have gained a basic understanding of what the innovation is (the Knowledge stage) and formed either a positive or negative view of it (the Persuasion stage). If the decision is to adopt, then the process continues with an Implementation stage, the actual use of the innovation and a Confirmation stage which might be seen as an evaluation stage with the adopter deciding whether to continue using the innovation.

Knowledge → Persuasion → Decision → Implementation → Confirmation
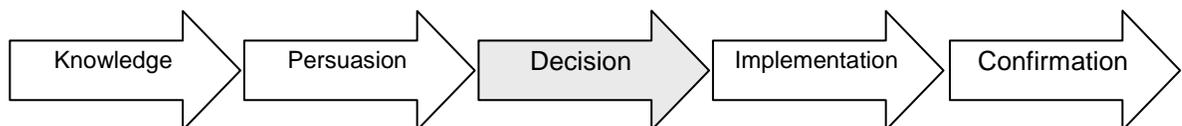
Figure 1: Rogers' Innovation-Decision Process (Adapted from Rogers, 2003, p.170)

The innovation decision process is clearly focused on adoption rather than non-adoption. If an individual rejects the innovation at the third stage, then Rogers' Innovation-Decision process does not deal with them any further.

Rate of Adoption

The second diffusion theory described by Rogers is the rate of adoption theory. This theory maps the diffusion of an innovation against time. It shows that a successful innovation will be adopted slowly initially, followed by a period of more dramatic rapid adoption before finally levelling off as adoptions slow down. This produces an S-shaped adoption curve (Figure 2).
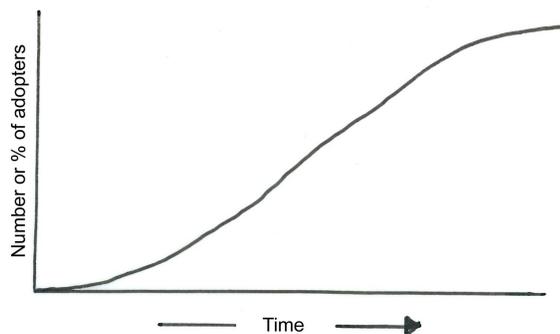
Figure 2: S-Shaped rate of Adoption Curve (Based on Rogers, 2003, p114)

Individual Innovativeness

The final of Rogers' theories is the idea of individual innovativeness and it is this theory that is perhaps most frequently cited in relation to the adoption of VLEs. It asserts that there are distinct categories of adopters each with its own characteristics, which affect the readiness of individuals in that category to adopt a particular innovation. The five categories are innovators, early adopters, early majority, late majority and laggards. According to Rogers the distribution of individuals across

these five categories will follow a bell-shaped curve, approaching a normal distribution for any particular innovation.
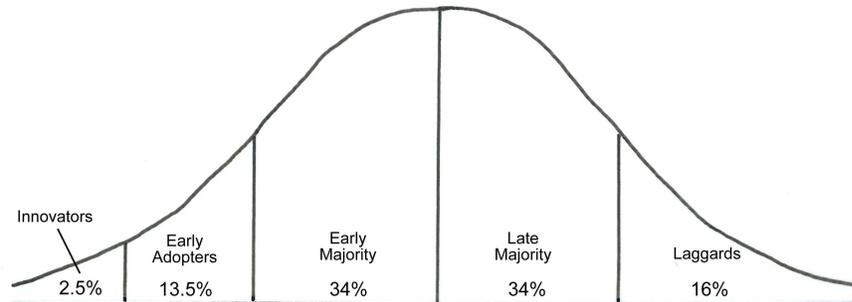
Figure 3: Individual innovativeness & Adopter categories (Based on Rogers, 2003, p.281)

Rogers notes that "by far the most popular diffusion research topic has been to study variables related to individual innovativeness" (Rogers, 2003, p.94). He estimates that almost 60% of empirical diffusion research has been in this area.

More recent diffusion innovation research has concentrated on the innovation process within organizations, which has led to a further 5-stage model (Rogers 2003). It is again focused on full adoption (the final step is the 'routinisation' of the use of the innovation) and pays no attention to non-adoption.

2.3.2 Building on Rogers

Geoghagen (1994) applied Rogers' Rate of Adoption and Individual Innovativeness models to the field of instructional technology together with work by Moore on selling and marketing technology. Moore's model built on Rogers' work and identified transitions points between the adopter groups. In particular, Moore identified 'The Chasm' – a gap that needs to be bridged between adoption by early adopters and adoption by the early majority (Geoghagen, 1994). Geoghagen

suggested that instructional design was stuck at this chasm and new strategies were needed to take adoption forward based partly on the characteristics of adopter groups identified by Rogers.

Another author who made links between Rogers' diffusion theory and the under-utilization of instructional design and technology was Ernest Burkman (Surry & Ely, 2002). In developing his own 5-step User-Orientated Instructional Development process (UOID) for instructional designers Burkman (1987) accepts Rogers' 5-step Innovation-Decision process and assumes potential adopters work through them. Burkman suggests that the instructional designer's problem is getting a favourable outcome at each step.

More recently, Kirkup and Kirkwood (2005) used Rogers' diffusion theories alongside Activity theory to examine the use of ICTs in higher education teaching at the Open University. They suggested that while diffusion theories could predict general cycles of adoption, a further framework – activity theory – was needed to explain why and how tools and technologies were adopted.

2.3.3 Other Models

Although Rogers' diffusion theories are probably the most cited in the learning technology adoption literature there are several other models. The other commonly cited innovation adoption model is Hall's Concerns Based Adoption Model (CBAM) (Hall and Hord, 1987). This model was developed to assist change facilitators in

schools. It identifies change, including innovation adoption, as a process rather than an event and sees the facilitator, their interventions, and the context as key elements.

The model was developed as the authors believed that innovations were being unfairly judged and that the process of implementation was failing rather than the innovations themselves. The CBAM includes several elements but it is known in particular for two independent scales. Firstly, there are seven Stages of Concern - awareness, informational, personal, management, consequence, collaboration, and refocusing - which focus on how teachers feel about the innovation and are used to inform appropriate professional development. Secondly CBAM provides eight levels of use (of an innovation): non-use, orientation, preparation, mechanical use, routine, refinement, integration and renewal. The CBAM model is often used to guide the implementation of innovations in schools (Surry & Ely, 2002).

In presenting their Integrated Technology Adoption and Diffusion Model, Sherry et al (2000) see it as an extension to both the CBAM and Rogers' framework. The model is based on five developmental stages of learning and adoption – teacher as learner, teacher as adopter, teacher as co-learner, teacher as re-affirmer or rejecter and finally teacher as leader. The research-based model identifies effective strategies for each of the five stages.

After studying successful implementations of educational technology innovations Donald Ely developed a list of eight conditions that can contribute to successful

implementation: dissatisfaction with the status quo, existence of knowledge and

skills, availability of resources, availability of time, existence of rewards and/or

incentives, participation, commitment and lastly leadership (Ely, 1990). These

facilitative conditions are seen as a tool for aiding implementation, "a list of validated

guidelines" (Ely, 1990 p.303) rather than rules.

Information Systems implementation theories provide a further perspective on VLE

adoption. These theories include Rogers' diffusion theories but they also contribute

two further frameworks: implementation as technology acceptance and

implementation as a learning process. Technology acceptance models are based on

perceived usefulness and perceived ease of use as the determinants of a user's

acceptance or non-acceptance of a technology while implementation as a process of

learning considers the influence of 'communities of practice' on the innovation

adoption process (Keller, 2005).

2.4 Critiques of Adoption Models

The main criticism of the adoption models, particularly Rogers' diffusion theories, is

that they tend by their very nature not to deal with non-adoption. The models focus

on adoption, acceptance and conditions for implementation. With some of the

models, particularly Rogers' rate of adoption and individual innovativeness, there is a

sense of inevitability to it all. Both of these theories model full adoption with the

premise that eventually even the "laggards" will adopt. However, as Robinson notes,

"this classification has little to say about those who choose (perhaps for good

reasons) not to adopt an innovation" (2001, p22).

Rogers himself does not completely ignore non-adoption; it tends to be those that cite him. Rogers distinguishes between active rejection – considering an innovation and deciding not to adopt; non-adoption (or passive rejection) – the innovation is not even considered; and discontinuance – the rejection of a previously adopted innovation (Rogers, 2003). However the core diffusion theories pay little attention to non-adoption and non-adopters.

Adoption theories are primarily of interest to those involved in promoting and encouraging an adoption. Rogers readily admits that the strongest critique of diffusion theories is what he calls the pro-innovation bias, which implies adoption by everyone in the particular social system (Rogers, 2003). It has been suggested that this bias is connected to the funding of research by 'change agencies' which limits the interest in non-adopters:

> "Perhaps owing to the pro-innovation bias that pervades much diffusion inquiry, investigation of rejection behaviour has not received much scholarly attention" (Rogers, 2003, p.178).

Furthermore:

"Perhaps because change agencies are more interested in innovators and early adopters relatively few studies are conducted of laggards" (Rogers 1995, p.294)

Other commentators have noted the limitations of adoption models as they tend to be purely descriptive rather than explanatory,

"Adoption models of Rogers and Hall, for example, are marked by their descriptive (as opposed to explanatory) emphasis, and their frequent use of labeling, typing, and categorizing of various elements and participants of the change process. Constituents fall into X number of categories; innovations may be of X varieties; and so on." (Wilson et al 1999, p.24).

As noted above (section 2.3.2) this argument is supported by Kirkup & Kirkwood in their use of activity theory alongside diffusion theories to help understand "the reasons for the specific adoption trajectory" (Kirkup & Kirkwood 2005, p.187).

A final criticism, again of Rogers' individual innovativeness theory, focuses on the language used for the five adopter categories. It has been suggested that while the categories themselves may be supported empirically the choice of labels might be seen to "support a tacit assumption that a contemplated change is *de facto* desirable" (Wilson et al 2000, p.301). In particular they warn against the some what pejorative and value-laden 'laggards' label.

2.5 Academic Staff and Barriers to Adoption

There has been a significant amount of work carried out over last 10 years investigating the impediments to staff uptake of learning technologies. Before looking at these barriers in detail it should be noted that academic staff are not generally resistant to ICTs:

> "Academics in the main are not anti-technology. They frequently use the
> computer to write, analyse, present and communicate with colleagues and
> students" (O'Donoghue 2006, p.vii).

This is supported by a study of Stanford professors (Cuban, 2001) and by large-scale surveys at the Open University over a number of years (Kirkup & Kirkwood, 2005).

A comparison of earlier and more recent studies of the barriers highlights a shift in emphasis. A number of studies from the United States at the turn of the century reported time, resources – both financial and physical, for example hardware – as well as a lack of training and support as the most significant barriers (Jacobson, 2000; Rogers, 2000; Passmore, 2000).

More recently there have been a number of reports from UK institutions (various reported in O'Donoghue, 2006; Heaton-Shrestha et al, 2005) focused on VLEs. The most important barriers are summarised below.

Time or workload is still a major factor:

> "Academic staff have competing demands on their time including teaching,
> research, administration, and income generation" (Newland et al 2006, p.40)

Research from both Kingston University (Heaton-Shrestha et al, 2005) and the University of Birmingham (Davies & Smith, 2006) also report workload and a lack of time as a key obstacle for staff in their use of the VLE.

A lack of resources now appears to be less of an issue, particularly with regard to infrastructure. However support and staff development are still seen as a barrier by some (Morón-Garcia, 2006; Newland et al, 2006) if only again as a drain on time. It is also as an issue for administrative support staff (Davies & Smith 2006), although in the Kingston study training was specifically highlighted as not being mentioned by the staff who were interviewed (Heaton-Shrestha et al, 2005). This may reflect a variance in local support as, although support for learning technologies is increasing, it is not yet available to all (Browne & et al, 2006).

The recent studies have reported a number of pedagogic issues, with staff questioning the appropriateness or effectiveness of e-learning (Heaton-Shrestha et al, 2005; Davies & Smith, 2006) or struggling to identify purposeful uses (Morón-Garcia, 2006). In addition, students' attitudes have also been cited. Firstly their focus on final assessment rather than learning – if it is not compulsory or graded, then why

bother. Secondly some staff are concerned that the use of online activities might adversely impact campus-based ones, for example non-attendance at lectures (Morón-Garcia, 2006; Heaton-Shrestha et al, 2005).

A final common theme is the lack of recognition and encouragement for these activities; in particular the importance of research over teaching is repeatedly cited:

> "…it is still the case that in the majority of institutions, recognition and promotion is linked to research activity rather than innovative teaching developments" (Newland et al 2006, p.40)

There has clearly been a significant amount of research on the barriers academic staff see as preventing them from using the institutional VLEs. So is there a need for further work? All of the above research is based on studies of adopters of learning technology, those who are using the VLEs. While the study at Kingston University did include staff who were not enthusiastic there does not seem to be any research asking staff who are not using the VLEs why that is the case.

2.6 Summary

This review has shown that while VLEs have been implemented in almost all UK higher institutions, take-up amongst academic staff has not been quite so enthusiastic. Research into barriers to use of the VLE has identified several key factors – time or workload; pedagogic uncertainty; sometimes a lack of the necessary support and

finally a lack of recognition and encouragement. However this research has concentrated on staff that are already using VLEs. As Kirkup & Kirkwood noted:

> "For any innovation, it is a mistake to extrapolate from the actions and enthusiasm of early adopters in order to predict the use and impact on the larger scale. However, in much of the recent literature this appears to have been done for ICT in education. What is needed are studies of ICT use in HE teaching over a longer period, so that the behaviour of late adopters, even of resisters, is examined." (Kirkup & Kirkwood, 2005, p187)

There is certainly a danger in this kind of extrapolation but also in the use of models that map an inevitable full adoption and refer to staff who are not using VLEs as 'laggards' or at best the 'late majority'. The views of those who are not using VLEs have been neglected in the literature. Arguably, this should be examined now and the remainder of this report will attempt to do that.

Chapter 3: Methodology

This chapter introduces the research strategy that was adopted for this study. It explains how the sample was chosen, the data collected and the analysis that was carried out. It also covers the ethical issues that had to be considered.

3.1 Case Study Approach

This study is looking into the question: 'why some lecturers do not use the VLEs that are provided by their institutions'. To explore this, the lecturers themselves need to be investigated and the case study was chosen as an appropriate research strategy.

> "A case study is an empirical inquiry that investigates a contemporary phenomenon within its real life context, especially when the boundaries between phenomenon and context are not clearly evident" (Yin, 2003, p.13).

The non-adoption of technology by higher education teaching staff is certainly a contemporary phenomenon. Although the cases are being described retrospectively, the individuals are reporting their own recent decisions. It seems reasonable to assume that the phenomenon (non-adoption of the VLE) and its context are strongly intertwined.

The approach was one of multiple or collective case studies, which is ideal for investigating a general phenomenon (Stake, 2005). The insights the cases provide are more important than the particularity of the individual case. Stake notes:

> "…illustration of how a phenomenon occurs in the circumstances of several exemplars can provide valued and trustworthy knowledge" (2005, p.458).

3.2 Sampling

The sampling method for the selection of candidates for the case studies was both purposive and opportunistic. The case study candidates were purposely selected to ensure they met specific requirements. It is also an opportunity or convenience sample as the candidates are drawn from a single higher education institution – the London School of Economics – where the researcher is based and therefore has easy access to. The sampling does not attempt to represent the wider population and it is recognised that the possibility of generalising from the findings is therefore negligible (Cohen et al, 2000). The case studies were selected by first contacting the administrative managers of the institution's academic departments, via email, for assistance in identifying potential candidates that met the following basic criteria:

1. Employed lecturing staff
2. Actively engaged in teaching
3. Not using the institutional VLE as part of the above teaching

The selected population for this study is staff teaching in higher education. The particular focus is on lecturing staff as opposed to graduate teachers such as current PhD students employed solely for seminar teaching. These staff were excluded as their terms and purpose of employment are quite different, as potentially, is their access to the institutional VLE. Furthermore, the study was only looking for candidates who were involved in teaching and not, for example, a non-teaching course leader. Finally, the key criterion was that the candidates were not currently using the VLE in their teaching.

3.3 Data Collection

Several candidates were identified via the initial email to departmental managers and five interviews were arranged which were carried out in May and June 2007. The number of cases chosen was based on what was reasonable for a study of this scale and type, although it was also restricted by the number of responses, which was somewhat limited. This was possibly due to the topic of research as some lecturers may have felt uncomfortable volunteering and identifying themselves as not using a technology provided by the institution to support their teaching.

The interviews were semi-structured; with the broad topics to be covered decided in advance. These were: current teaching load and previous experience, the relative importance of teaching in their role as an academic, personal use of ICTs, use of ICTs in relation to teaching, and finally, reasons for not using the VLE. A semi-structured approach was chosen to ensure a certain level of comprehensiveness across the cases. However it is recognised that variations in the interview questions and sequence can

limit the comparison of the responses (Cohen et al, 2000). However, it was deemed more important not to be too structured and to allow for individual stories and contexts to be uncovered. An audio recording was made of each interview and only limited notes were taken during the interview to assist with questioning as the interview progressed.

An alternative strategy to interviews would have been the use of a questionnaire. This was seen as inappropriate for two reasons. Firstly, it is limited in its capacity to fully investigate the context (Yin, 2003). Secondly, for the relatively small-scale of this study a rigorous survey was unfeasible in terms of resources, particularly time.

3.4 Data Analysis and Reporting

Following the interviews detailed notes were made from the recordings from which key themes were identified; the data was not exhaustively categorized, rather a judgment was made on what was most significant, based on the researcher's understanding and experience of the topic. As the data is qualitative and the interviews were semi-structured the analysis was inevitably interpretative (Cohen et al, 2000). Key sections were then transcribed in full to enable the use of direct quotes in the reporting. The cases were first described individually – see Chapter 4: Results – providing an overall impression of the interview and highlighting the key themes that emerged in each one. Finally, patterns emerging from the results were identified and the findings were linked back to the theoretical framework of adoption theories.

3.5 Ethics

The nature and the subjects of this research do not present a significant ethical dimension. Nevertheless, ethics cannot be ignored when undertaking any research and there are three main ethical issues to consider when carrying out interviews (Cohen et al, 2000). Firstly, informed consent. It was important that the case study candidates entered into the research voluntarily and with full information as to its purpose and methods. All subjects were fully informed of the purpose of the research and offered the right to withdraw from participation at any point. Secondly, the case study candidates were guaranteed complete confidentiality which tied in with the third issue – the risk of consequences of their taking part. While the risk was seen to be relatively small it is recognised that the participants did face a certain risk in identifying themselves as non-users of an ICT that is tacitly recommended by their institution, and the possibility that they might be seen as techno-phobic. The confidentiality aimed to cover any doubts the participants might have and it was emphasised both in the original email and verbally at the start of the interviews.

This chapter has outlined the research strategy for this study including the ethical considerations. The next two chapters cover the data analysis. Firstly in the Results chapter, the individual case studies are reported and then in the following chapter, 5: Discussion, patterns across the cases are described and the findings are related to the theoretical framework.

Chapter 4: Results

In this chapter the results of the data collection will be presented. Each of the five case studies will be presented individually which will enable the key themes that emerged from each interview to be highlighted. The following chapter will then describe patterns of themes across the case studies and relate the findings to adoption theories.

4.1 Case Study 1

The first case study is a lecturer who teaches three courses, two at postgraduate level and one undergraduate course. He has completed a postgraduate certificate in Teaching and Learning in Higher Education at another institution and the use of learning technologies such virtual learning environments (VLEs) was covered as part of this course. The main focus of the interview was the ongoing redesign of two of the courses that he teaches. These related courses – one undergraduate, one postgraduate – were overhauled three years ago when this lecturer and a colleague took over responsibility for teaching the subject.

He also spoke at length about his use of PowerPoint in the classroom: both when and how he preferred to use it; as well as the advantages and disadvantages it offers for both himself and his students. It was clear from the interview that he puts a lot of thought into planning his teaching both individually and as part of a teaching team but at the same time he touched on the multiple roles of an academic and noted that

research is "…in some ways the most important aspect of our job as that is what we will be judged on".

Data Analysis

There were three clear but inter-related themes arising from this case study. The first focuses on the lecturer's belief that technology cannot be introduced into the teaching of a course until the course design has been completed and the content fine-tuned:

> "First of all you have to have the course worked out fully. Yeah, now in our case I'd say, given the constraints we operate under that stage hasn't yet been attained. …we are not going to go for the introduction of technology until we've got this 95 percent in place"

The course under discussion had been taught for three full iterations, although both of the lecturers have had a term's study leave during this period. He stressed that the broad subject area of this course meant that new topics to be covered for both lectures and seminars were still being tried out.

The second theme relates to what the lecturer perceives the role of the VLE to be. This is based on what was covered on his earlier postgraduate teaching certificate:

> "My impression at least, was that I could actually use it both in terms of presenting material differently, making them do exercises which would

otherwise be difficult to do perhaps and various ways of informal assessment

etc"

Further to this, he seemed to particularly associate the VLE with assessment, later saying that until the topics for the undergraduate course were sorted out:

"…we cannot come up with informal ways for testing their knowledge or asking them to go beyond it. Too much for us at this stage in terms of time commitment"

It was apparent from the interview that he has actively considered the use of the VLE on this course and he reported that this had indeed been discussed with his co-lecturer. His perception of the VLE, as being for something beyond the basics, is strengthened by the third theme for this case study which is the use of technology that he does exist on the teaching of this course.   He regularly uses email for one-to-one interactions with his students but would not label this as using technology in teaching: "That's part of the normal game". He uses PowerPoint when lecturing and makes the files available to his students via 'Public Folders'[1]. Furthermore the reading list is selected with electronic journals in mind:

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[1] Public Folders are part of Microsoft Exchange Server, which allows for the sharing of documents (as well as providing email). This includes a web interface which is available to all LSE staff and students.

"We make a conscious effort actually when setting up the reading list to introduce only those articles that one can find in the library electronically, so again in that sense we actually do use technology"

This lecturer has clearly considered the use of the VLE and decided against it until the course content is fine-tuned. In fact he is already using other technologies in ways which actually mirror the most common uses of a VLE. However he sees a VLE as being for more than the basics, for example for the delivery of exercises and informal tests.

4.2 Case Study 2

Case study two is a first year lecturer teaching a "social scientific" subject. He teaches three courses, two postgraduate and one undergraduate in a standard format of lectures, in which he reported, "I basically just talk" and seminars. The format of the postgraduate seminars varies – one is project-based and this time is used for further presentation from the lecturer and dealing with any problems the students are having. The other seminars are more traditional: lecturer-led discussion and student presentations. On all of his courses an administrator uses WebCT for essay collection but he makes no use of it. In his personal life he uses the Internet widely and considers himself an average user of technology:

"I'm not a Luddite but at the same I'm not a real lover and avid user of technology… I'm average for a person of my age…very comfortable around a

PC and electronic goods in general. I don't do Skype; I don't use YouTube or things like that."

Data Analysis

The themes from this case study focus on the lecturer's existing use of technology and understanding of what the VLE might offer. Although he does not use the VLE he already makes considerable use of technology to support his teaching. He presents with PowerPoint and includes extensive notes with them which are for public consumption rather than a presentation aid.   He described them as being:

"Written in a… a bit like a blog might be written. I don't do blogging but it's relatively free flowing, I don't worry too much about the elegance of the sentences... fairly informal but readable"

This reference to blogging, along with others to Skype and YouTube suggests he has an awareness of current ICT developments even if he is not using them.

He makes his PowerPoint files available to students through Public Folders and chose these technologies because he was familiar with them and was short of time at the start of the academic year:

"I didn't finish my previous job until the last day in September so I had no time to learn new things. I knew how to use PowerPoint and I knew how to use Public Folders from having been here as a student"

He also makes use of the 'class mailer' which is a feature of the LSE intranet rather than the institutional VLE. It provides lecturers with an easy way to email students on their courses and he used it to:

"…communicate with students when I want to for example draw their attention to interesting reports or maybe somebody asks me a question which I think everybody should be benefiting from the answer to."

The second theme from this case study is the lecturer's awareness of the university's VLE (WebCT), which he had heard about both within the department and at an internal teaching and learning event. He also thinks he used it as postgraduate student (at the LSE). He was able to talk in some detail about what he believes a VLE provides:

"I understand for example it can perform the function of a Public Folder in that you can post your lectures and so on. I have some vague sense in which it provides a whole lot more than that in terms of being able to post all sorts of things and anyone can come and see it …easier to get into than Public

Folders. …I also understand that it's a more effective way of mailing and communicating with students [than the class mailer]"

With this understanding of the VLE there is a third theme: an intention to use WebCT in the next academic year if he considers it helpful:

"I'm keen to use the highest tech options that are available to me, subject to the fact that I don't want to spend much of my time learning to use them. So basically I will probably use it [WebCT] next year because it sounds snazzy. I just didn't have the time [this year]. …I assume that it will be beneficial. If I find that it's not, I won't use it."

This lecturer chose not to use the VLE for his first year of teaching as he did not have the time to implement it. He uses alternative ICTs to distribute content and communicate with students but is considering the VLE for the next academic year and will use it if it is "at least as good as the system I have in place at the moment".

4.3 Case Study 3

The third case study is a senior member of staff who has only been at the LSE for a couple of years and is involved in teaching both lectures and discussion-based seminars for postgraduates and undergraduates. She is proud of her teaching, "…I find that improvisation is the key to my teaching and I have to say that my teaching is very very good" and is clear about the purpose of her lectures:

"The point about my lectures is to try and enthuse students, give them a sense

of why it's interesting to ask a particular question, and how people have set

about trying to answer it, and why they should go off to the library and get

reading"

She spoke fondly of her own university education – reading in the library, discussions

over coffee – and while she clearly really enjoys her job she also commented on the

current situation as follows:

"I've certainly you know, accepted the inevitable of readers' packs[2] which

means that people don't, you know… if they go to the library it's to use the

computers not to use the books. In an era of mass education that's the way it

is I guess."

With regard to technology, she uses email a lot, "I live on email" but prefers texting,

and also uses the Internet regularly, both personally and professionally. However,

although she is aware of the technologies available, she has made limited use of them

in her own teaching and is unenthusiastic about technology in this context.

Data Analysis

The first theme in this case study looks at how the subject is primarily negative about

the use of technology in teaching, although not completely dismissive. She does not

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[2] Readers' packs are photocopied collections of readings available to students for purchase. Online 'epacks' are also available at the LSE but she was referring to the print version.

like to use classroom technologies as they interfere with her teaching rather than aid it; in this context she said:

> "…I think the tyranny of technology sometimes gets the better of people and people who are very good at standing up and talking in front of a group of students should be allowed to do that."

She co-teaches one course with a keen user of learning technologies and through this has been on the periphery of online discussions. While she sees student discussion as essential in the learning process and is very happy for students to participate in this online, she is not convinced by it or willing to get involved,

> "…I'm not going to spend my time reading what they write and responding to it. I've dipped into them occasionally and sometimes they're quite good and sometimes they seem pretty much a waste of time to me."

Her willingness to ignore the good elements was not connected to the fact that it was online in the VLE but reflected how she saw her role, as she went on to say:

> "I certainly think that discussion amongst students by whatever means is essential to the learning process and I think they should do it but I don't think that I have to be involved."

The second theme for this case study is the effect that using the VLE might have on students. This is connected to a specific use of the VLE that she is familiar with, that is, its use for providing students with easily accessible electronic readings. She has looked at some of her colleagues' use of WebCT for online readings: "I mean I've seen how other people use it for their course packs now. I've gone out of my way to have a look…". However, she has strong reservations about this,

> "I think there is a fine line between making stuff available to students and making it all so easily available that it disempowers students and I think that WebCT is getting pretty close to disempowering students."

The final theme for this case is time and priorities. When talking about online readings she twice mentioned not having enough time although it was the above pedagogical reason that came across more strongly. In the previous academic year she had produced lecture notes that were distributed via the departmental website. However, she had decided not to do this again because of the work and time involved in rewriting her own notes for distribution to the students. She provided the following summary of her attitude to using technology in teaching:

> "It's a bad use of my time. It's a bad use of my time because it does involve a lot of extra preparation and I would rather spend that time reading and thinking about a subject in order to give a really good lecture and fire up the students"

4.4 Case Study 4

Case study four is a lecturer in his fifth year of teaching and his second year at the LSE. He teaches a cross–discipline subject that is both quantitative and qualitative in its approach. He only teaches undergraduates and although he makes no use of WebCT, a course administrator does use it on the courses he teaches for collecting essays.

In his lectures he likes to involve the students as much as possible, which he says surprises them at the start of year. He pushes students to ask and answer questions both of himself and of each other. With regard to the VLE he describes his reasoning for not using it as one of "rational laziness". He perceives its use as being very time-intensive and on the basis of his own very theoretical cost-benefit analysis, he believes the pay off is not worth it.

Data Analysis

Although he is not using the VLE, he is making use of technologies as part of his teaching. He presents using PowerPoint and makes these slides available to his students via Public Folders. He also has a lot of email contact with many of his students on an individual basis,

> "I don't know maybe I'm spending too much time. When I get an email I answer it. Maybe a couple of days later but I answer all emails"

These uses of technology lead on to another theme, his understanding of what the VLE is used for and this underpins his belief that it would be time intensive to implement. He associates the VLE with self study, self-paced exercises, more in the model of computer-based learning:

> "…it's my feeling that it's probably time intensive. You know, I know that WebCT or whatever you can do some exercises online and so it's extremely intensive, I foresee it being very time intensive"

He also feels that many students happy to do the least work possible and is not convinced that many would seize the opportunity to use any online exercises.

The final theme that came up was the use of technology for providing students with direct access to the readings for the course alongside his view of what students expect from their lecturer and vice versa. He does not think that providing direct access to readings through the VLE is necessary or even desirable,

> "Some of them would like… if I could scan every single piece of paper or book they would be happy but it's not my …"

> [Interviewer] "It's not your role?"

"No. The books are in the library. Most papers, virtually all of them are available electronically so I think they can do it themselves… but yes you always have that odd student every year expecting you to do everything for them… to pre-swallow whatever they have to do."

This lecturer uses other ICTs rather than the institutional VLE to support his teaching. He understands the VLE to be primarily for online exercises which would be time-intensive to implement. He does not believe it is necessary to provide students with direct links to readings online and has no plans to use the VLE.

4.5 Case Study 5

The lecturer providing the final case study has made use of a VLE for one course he teaches but on other courses has chosen not to. He recently returned from research leave and is not currently using the VLE but prior to this leave he was using WebCT on one of the two courses he taught. He was asked about the importance of teaching in his role as an academic and replied,

"Very important I think, I try to do a good job. …I tend to think of my influence potentially on them [students] as opening them up to new ideas, challenging assumptions they had. So I do take it seriously and take a lot of time preparing to teach."

His use of ICTs is mainly work-related, "Email is unending. Tends to be academic.".

He uses his computer for writing lectures, working on his research, and finding

information and academic papers online. He first bought a computer in 1995 and has

had Internet access at home since 2001, when he started at the LSE.

Data Analysis

The key theme from this case is the lecturer's decision to use WebCT on one course

but not on others. This is tied to his belief of what he should use the VLE for and

whether or not it can be utilized for particular types of courses. He was originally

asked by his head of department to use WebCT for a heavily theoretical course but

instead volunteered to use it on another more applied one,

> "…I didn't see how that would work so I sold them this other one. I could
>
> see… films, links to maps, radio programmes, sounds great, but you know, a
>
> link to a website about Karl Marx... it has a less kind of appealing aspect to it
>
> right?"

Although this resulted in a large amount of work he felt it worked very well and he

was "delighted" with it. In particular, he felt that students benefited from easy access

to multimedia – videos and radio programmes – delivered through WebCT. He is not

using WebCT currently, partly because of timing – teaching started immediately after

his research leave – but he also said, "I don't see how it could be on WebCT because

it's the same kind of course that I didn't put on WebCT before". He is teaching the

same course next year and does not plan to use WebCT,

> "I can't envisage how I would use the theory course on WebCT. I don't want
> to have online discussions; you know I'm happy to let the readings go online,
> if they [the administrative staff] want to post these lectures that I've now
> written up onto WebCT, you know great"

He sees this use of WebCT as "a kind of clearing house function" and the decision to

put this material online is taken by the departmental administration rather than by

him. In fact for both the theory-based courses for which he chose not to use WebCT,

it was in use with reading lists providing links to electronic readings added by

administrative staff. Although he said he was ambivalent about this, he also felt that

something was lost by clicking rather than visiting the library and that his students'

research skills might suffer because of the direct access to electronic readings via the

VLE.

In the past, as a result of pressure from students, who were used to receiving

electronic lecture notes from another lecturer, he did provide some of his own notes

electronically. However he prefers to hand-write them and does not make them

available as a matter of course. Furthermore, he has pedagogical reasons for not

wanting to post lecture notes,

"If I post notes like this students are much less likely to come to lectures. I think they're much less likely to learn good note-keeping skills, to attend to what's being said in the lecture. I think it's a real skill that people have to master, to sit through a seminar, listen to what's being said and organise what's presented to them in some sort of manageable way"

This chapter has presented the data collected from the five case studies, emphasising the key themes that were revealed. This includes the lecturers' regular use of ICTs and a general awareness of VLEs, their understanding of what the VLE is for, the influence of pedagogy, the issue of time or rather, priorities as well the lecturers' beliefs of what students should be doing as students. The following chapter, the Discussion, will look across the case studies to explore the patterns and relate the findings to the existing theories.

Chapter 5: Discussion

In this chapter the results reported in the previous chapter will be further analysed. Firstly patterns across the case will be described and then the findings will be contrasted with the existing theories.

5.1 Staff Skills and Attitudes

The first connection between the case studies is that all five lecturers are comfortable using basic ICTs such as email, software for producing electronic documents and the Internet for information retrieval. This supports the findings highlighted in the literature review that academics are not usually averse to using ICTs (Cuban, 2001; O'Donoghue, 2006). There was also a positive attitude to teaching across the cases. Although both the high status of research and the varied pressures on their limited time were cited by some, it is apparent that amongst this group teaching is generally enjoyed, carefully planned and taken very seriously.

5.2 Conceptions of VLE Use

Although none of the lecturers are currently using a VLE there was a strong awareness of the existence of the institutional VLE and an understanding of how LSE colleagues are using it, and of its potential uses. Three of the lecturers were using alternative ICTs to the VLE in their teaching for distributing lecture notes and communicating with their students, which are common uses of VLEs. Only one of

the three saw the VLE as a more effective way of replicating these uses, although he also imagined it offered more than that. The other two – case studies one and four – had a slightly different perception of what the VLE is for. It was seen by both as being more for online exercises for formative assessment. This would appear to refer back to a somewhat out-dated conception of the role in technology in education; one of computer-based learning (CBL) where the computer is used to provide self-study exercises with pre-programmed feedback (Kearsley, 2000). In case study five, the lecturer who had previously made use of the VLE, also felt that his own use of it should go beyond the basic provision of lecture notes and reading lists, which in his case was initiated and implemented by administrative staff. These two views from non-adopters, firstly the perception that the VLE is primarily for computer-based exercises, and secondly that a lecturer's use of the VLE should go beyond the provision of basic content are very interesting. They contrast with the existing uses of VLEs by adopters, which while extremely varied, tend to be skewed towards the provision of basic course materials (Browne et al, 2006). The involvement of administrative staff, not initiated by the individual lecturers, was found in two further case studies where the VLE was being used by departmental staff to collect essay submissions.

5.3 Pedagogy and Students

There was a clear pedagogical influence on some of the decisions for not using the VLE; in one case the lecturer felt that his course design – the fine-tuning of content for a relatively new course - must be complete before introducing online elements. In

three of the cases, the lecturers' expectations of what their students should be doing and the effects that certain uses of the VLE might have on this were raised. The use of the VLE for direct access to electronic readings was seen as not necessary in one case and its appropriateness was questioned by two lecturers who feared it might have a negative impact on students' research skills. One lecturer also had pedagogical reasons for not wanting to post lecture notes; he was concerned that if this resulted in non-attendance then the development of the students' note-taking skills and their ability to synthesise a presentation would be affected. One of these lecturers went as far as suggesting that the VLE was close to disempowering students. While earlier work has clearly identified pedagogical issues as a barrier to VLE use (for example, Morón-Garcia, 2006), the view that certain VLE uses might have a negative impact on the development of skills that the lecturers perceive as important, would appear to go beyond findings in existing studies of VLE adopters.

5.4 Time and Priorities

Perhaps not surprisingly, the perennial issue of time and how it is best used was referred to in four of the cases. One lecturer felt strongly that the time she allocated to teaching was better spent on other things – reading and lecture preparation. The two lecturers who perceived the VLE as being for online exercises envisaged their development as being too time-intensive to embark upon, either at this particular point in time or because the pay-off wasn't worth it. In two of the cases the multiple roles of an academic were highlighted and in one the importance of research noted. Again this supports earlier work on VLE adoption, where both recognition for

research rather than teaching, and prioritising the use of time have been identified as barriers (Newland et al, 2006).

5.5 Adoption Theories

In relation to Rogers' adoption theories all five lecturers have passed the second stage in the innovation-decision process, labelled persuasion, where a view of the innovation is formed and they have all reached the third step – decision – where a choice is made to adopt or not. They have all made what Rogers calls an active rejection (Rogers, 2003); they are aware of the innovation and have decided not to adopt it.

In one of the cases, for just one of his courses, the lecturer went beyond this, through the implementation stage to the fifth and final confirmation stage, where the innovation is evaluated to consider whether or not to continue with it. His decision being that he would continue using the VLE in similar circumstances but has actively rejected it in others; Rogers (2003) categorises this form of rejection as discontinuance. This partial adoption, dependent on local conditions is not dealt with by the adoption theories.

Similarly, CBAM focuses on the process that change facilitators need to follow to successfully implement the innovation (Hall and Hord, 1987). There is no place here for those who reject the innovation. Perhaps this is reasonable and not surprising; they are adoption theories after all. However change agents using adoption theories

tend to treat non-adopters as resisting change rather than having made a positive decision. These theories must be used with care, particularly where they are being invoked to support and facilitate VLE implementation.

In relation to Rogers' classification of adopters it is not possible to classify four of the cases as belonging to the laggards or indeed any of the categories as they have not adopted the VLE. Rogers' himself is aware that incomplete adoption is a problem for his classification and that therefore "the fivefold classification scheme is not exhaustive" (Rogers, 2003, p.281). However no attempts have been made to incorporate non-adopters neither the active nor the passive rejecters into the diffusion theories. The one lecturer in this study who had partially adopted could in theory be classified but in practice it would require knowing his position along the continuum of VLE adoption across the LSE.

The results of this study show that for VLE adoption at the LSE some staff are not necessarily unaware of the possibility and simply slow to adopt. Rather, they are active rejecters of the innovation, with some using alternative ICTs and some choosing not to use the VLE for a variety of reasons including pedagogical ones and their understanding of what the VLE is for. In the next and final chapter, conclusions will be drawn, and the limitations of the study and possible areas for future work will be outlined.

Chapter 6: Conclusion

This final chapter will revisit the research questions and summarise the findings. It will then outline the limitations of the study and highlight areas for possible further research.

6.1 Research Questions

This Report set out to investigate lecturers in higher education who are not using their institutional VLE and answer the following questions:

- Is there an awareness of VLEs among non-adopters and if so what is there understanding of what a VLE is for?

- Have non-adopters considered and then rejected using a VLE?

- If so, what are their reasons for rejection?

In all of the five case studies there was an awareness of both the existence of an institutional VLE and its purpose. In some cases the understanding of its potential uses contrasted with much current usage, with a perception that it is a vehicle for going beyond the basics of reading lists and course material. The lecturers had all considered using the VLE and had actively rejected its use for a variety of reasons. There was one case of partial adoption – the VLE was in use on one course but not seen as suitable for other courses. The reasons for rejecting the VLE were varied, as well as the (mis)conception of VLE use above, the lecturers cited pedagogical issues and the need to prioritise use of that scarce resource time, both barriers that have been found in studies of VLE adopters. There was also a concern flagged in some of the

cases that certain uses of the VLE may have a detrimental impact on the development of students' skills that their lecturers feel are important.

Adoption theories, such as Rogers, which are widely referred to in the literature on VLE implementation and adoption were found to be inadequate as they don't deal with non-adoption. It is recommended that these theories which model an inevitable full adoption should be used with more care. In particular caution must be exercised in the use of terms such as laggards and resisters which have been applied to those yet to adopt an innovation such as the VLE. As the study has found non-adopters are not necessarily passively unaware or resisting an innovation but rather, actively rejecting it.

6.2 Limitations

This study is a snapshot. It is based on an opportunistic sample at a single institution and uses a research strategy based on case studies. This approach means there can be no generalisations made about the wider population. It is not even possible to generalise within the LSE, the research site, as the sample was not representative. Furthermore the fact that the interview recordings were not exhaustively transcribed and coded places a further limitation on the reliability of the results. However, the study and its findings are still of importance as they have provided data from a group that had not previously been studied. The findings, therefore, provide a good basis for further work on this topic.

6.3 Further work

Firstly there is scope for further work with the existing data. Comprehensive transcribing of the interview recordings would allow for a more robust analysis. Secondly, as this is the first time that non-adopters of VLEs have been studied there is clearly room for further studies involving more staff, particularly research at additional sites. Finally there is a need to delve deeper with regard to the findings, particularly for those that were unexpected or emergent. Is the non-adopters view of what a VLE is for significantly different to the adopters' and if so, why? What are the roles and relationships with regard to lecturers (both adopters and non-adopters), administrators and VLE use? Are the concerns raised, that some uses of VLEs may have a negative impact on students more widely held?

This report has examined VLE (non-)adoption by lecturing staff at UK higher institutions. It has provided a new perspective, one belonging to those who have chosen not to integrate their institution's VLEs into their teaching. They have chosen not to follow this route, not as the resisters or "laggards" of technology adoption theories, but as active rejecters of the VLE. The non-adopters have made these decisions for a variety of reasons which would benefit from further research in this area as there are potential implications for university managers, staff developers and support services.

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