Investigate the nature and extent of E-Learning adoption by accounting lecturers in Institutes of Technology and Universities in Ireland.

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Abstract

E-Learning refers to the way people learn electronically (Govindasamy, 2002). It involves the application of internet and digital technologies to create experiences that educate fellow human being (Horton, 2001). It was envisaged that E-Learning would transform education and result in pedagogic innovation, increase access to flexible education and reduce costs (Soloman, 2001). However studies have revealed that predictions such as lower costs have not materialised and E-Learning is in fact enhancing on-campus activities rather than increasing enrolment in long distance courses.

An extensive literature review identifies the factors that contributed to the emergence of E-Learning. Subsequent discussion focuses on the move from the traditional teaching approach to a more student-centred approach, incorporating the relevance of blended learning and E-Learning. Learning styles and the potential impact of E-Learning on the way students approach learning, is also explored. E-Learning technologies are discussed in detail and differentiations are made between administrative systems and virtual learning environments. The factors that relate to the successful implementation of an E-Learning programme are examined and the growth of E-Learning documented. The benefits and challenges of E-Learning are detailed from the perspective of the lecturer, the students and the organisation. Finally the literature review outlines how E-Learning can improve the way teachers teach accounting.

Analysis of empirical data collected through questionnaires leads to the identification of key issues and subsequent formulation of conclusions which are largely compatible with the literature. Recommendations

derived include, the E-Learning strategy must be communicated and reinforced by management and accepted by all staff. The provision of rewards and recognition should be implemented to encourage staff to utilise E-Learning and recognise the value of it. Organisations should collaborate with external organisation to gain efficiencies in best practices. The fact that E-Learning can encourage a student to adopt a more efficient approach to learning needs to be embraced and developed by organisations and lecturers. The last recommendation relates to the efficient utilisation of E-Learning platforms and the avoidance of duplication of technological infrastructure.

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Abbreviations

AAA	American Accounting Association
IFAC	International Federation of Accountants
JISC	Joint Information Systems Committee
LMS	Learning Management System
MLE	Management Learning Environment
OBHE	Observatory on Borderless Higher Education
OECD	Organisation for Economic Cooperation and Development
PLATO	Programme Logic for Teaching Operations
UCISA	Universities and Colleges Information Systems Association
VLE	Virtual Learning Environment

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CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

It was predicted that E-Learning would become the single most important transforming influence on education by the late 1990s resulting in pedagogic innovation, widened and flexible access to education and decreased costs (Sloman, 2001). However research carried out by the OECD in 2005 revealed that cost savings resulting from less travel and accommodation have not in fact materialised since the major impact of E-Learning has been to enhance on-campus classroom activities rather than to increase enrolment in long distance courses. Furthermore, studies vary in their findings as to whether E-Learning has pedagogical benefit. For instance some studies have concluded that E-Learning has resulted in increased student scores when compared to the traditional classroom (Redding & Rotzien, 2001), whereas other studies found that there has been little or no difference in the overall performance (Karr et al, 2003).

However, in spite of these contradictory findings, the fact that technology has the potential to provide considerable opportunity to develop the scope of teaching cannot be overlooked. However educators must take time to consider the relationship between technology and teaching strategies before using technologies in the classroom because if the quality of the instruction is poor, the students' learning will reflect this. (Paisley & Paisley 2005, Becker et al, 2007).

The American Accounting Association (AAA) commissioned and published a report known as the Bedford Committee Report in 1986. This report criticised the way in which educators teach accounting concluding that the focus was far too narrow and that the emphasis was on mechanical procedural approaches (AAA, Bedford Report, 1986). In addition, the accounting profession has changed significantly both in Ireland and internationally in the last fifteen years. Changes such as regulatory and market pressures coupled with technological advances have resulted in changes in the business environment (Byrne et al, 1999). Correspondingly such changes require accounting programs to produce graduates who are active independent learners, equipped with the knowledge, skills and attributes that will enable them to succeed in the current environment (Byrne et al, 1999).

There are thirteen institutes of technology and seven universities in the republic of Ireland. Competing on both national and international stages and facilitating students of all guises means these organisations are being constantly challenged to explain what they are doing, how they are doing it and how well is it being done.

1.2 E-LEARNING DEFINITION AND OVERVIEW

E-Learning refers to the way people learn electronically. It encompasses instructions delivered through all electronic media including the internet, intranets, extranets, satellite broadcasts, audio/video tapes, interactive TV and CD-ROMs (Govindasamy, 2002). E-Learning can also be known as on-line learning, web-

based training, computer-based training, and distance learning (Pantazis, 2001). Horton (2001) simply describes E-Learning as the application of Internet and digital technologies to create experiences that educate fellow human beings.

Rosenberg (2001) suggests that E-Learning is based on three fundamental criteria.

- E-Leaning is networked. Therefore it is able to distribute and share instruction and information, update instantly and store and retrieve information.
- E-Learning is delivered to the end user through the use of standard computers and internet technologies.
- E-Learning focuses on the broadest view of learning whereby it extends beyond the traditional view of learning.

There are many definitions of E-Learning and while some are similar others contradict each other. For example Rosenberg (2001) disagrees with the inclusion of CD-ROMs and audio/video tapes as electronic media used in E-Learning on the basis that they lack the networkability that facilitates information and instruction to be distributed and updated instantly. However there are other descriptions of E-Learning that are accepted and noted globally, these include E-Learning being described as bringing a flexible approach to learning, in that students can log on to the internet via their computers anytime and anywhere. Furthermore, E-Learning can be self-paced and suited to the life-style of the student (Knight, 2003; Richardson, 2003).

Dr James Kirk supports this view in recognising that E-Learning is individual, customised learning but widens the definition of a student to include employees who participate in organisational training. He asserts that E-Learning has become an integral part of organisational training by allowing training professionals to present training courses at each employee's desk (Educational Resources Information Centre, US, 2002).

The Joint Information Systems Committee (2004) also defines E-Learning but importantly broadens the definition to include the teacher as well as the student.

'E-learning is exploiting interactive technologies and communication systems to improve the learning experience. It has the potential to transform the way we teach and learn across the board. It can raise standards and widen participation in lifelong learning. It cannot replace teachers and lecturers, but alongside existing methods it can enhance the quality and reach of their teaching.'

Roffe (2002) argues that the 'E' in E-Learning has less to do with electronics and has more to do with the many attributes of E-Learning. For instance E-Learning engages the learner and enhances the learning experience. It enables the learner to explore the learning material with ease, all the while empowering the learner to control and execute their own learning programme.

The OECD in conjunction with the UK based Observatory on Borderless Higher Education (OBHE) carried out a survey of E-

Learning in 2005, involving 19 third level education institutions in 13 countries. The report asserts that the extent to which E-Learning is used in the delivery of a course can be described in four ways (OECD, 2005).

- Web-supplemented

  These courses focus on classroom based teaching but include E-Learning elements such as putting the course outline and lecture notes on line, use of email and links to online resources.

- Web-dependant

  Students are required to use the internet for key elements of the course, mainly online discussions, assessment, online projects and collaborative work. However the time spent in the classroom does not significantly reduce.

- Mixed-mode courses

  The course is supplemented by E-Learning to such an extent that it begins to replace some face-to-face teaching and learning, yet significant campus attendance is still required.

- Fully on-line

  Students complete courses on-line without attending the campus of the course provider.

The classification of E-Learning into these four categories highlights the scope of E-Learning. E-Learning can be the use of technology to simply put a course syllabus on-line or the provision of a fully on-line course.

E-Learning is swiftly growing as an acceptable means of providing education and training. Whether the delivery medium is the internet, intranet or computer-based training – at each point E-Learning has increased extensively (Roffe, 2002). However, the success of E-Learning is dependent on how learning takes place online. The core pedagogy and the value of E-learning lie in our ability to *'deploy its attributes to train the right people to gain the right knowledge and skills at the right time'* (Uhomoibhi, 2006).

1.3 RESEARCH AIMS AND OBJECTIVES

The rationale for this research paper stems from the fact that the accounting profession in Ireland provides a career path for many accounting graduates and as a result the competencies associated with high quality learning and outcomes are expected (IFAC, 1996). This research study explores the contribution of E-Learning in the provision of accounting programmes in Ireland's third level colleges.

Research undertaken into 'student approaches to learning' has identified that a student can approach learning in a number of different ways. Although the desired learning approach for accounting students is the 'deep approach', resulting in the students developing a high level of understanding, research regarding the approach adopted by accounting students revealed that not all students adopt this approach. As a result accounting educators must design courses in a way that encourage a deep approach to learning and accordingly enable students to achieve

high quality learning (Byrne & Flood, 2004; Marton and Ramsden, 1998)

Third level institutions are gradually incorporating E-Learning into their educational programmes but to what extent? Is it changing the way teachers teach and students learn or is it merely enabling the typing and emailing of assignments and course lists? Is E-Learning enriching the learning experience or causing pedagogical challenges? It is with attention to these questions that this explanatory study is undertaken.

The aims of this study are as follows:

1. Determine the nature and extent to which E-Learning forms part of accounting teaching practices in institutes of technology and universities in Ireland.
2. Establish the benefits and challenges experienced by accounting lecturers when using E-Learning.

The primary objective is to investigate the nature and extent of E-Learning adoption by accounting lecturers in universities and institutes of technology in Ireland.

The objectives of this study can be grouped as follows:

1a. To investigate the usage and commitment to E-Learning on an organisational level with regards to E-Learning support provided and E-Learning applications available to the lecturers.

1b. To examine the use of E-Leaning from the lecturer's perspective by determining how long E-Learning has been adopted, what applications are used and what aspects of teaching is it used for.

2a. To establish what the lecturer believes the benefits and challenges of E-Learning are to the organisation, the student and the lecturer.

2b. To identify what the lecturer perceives as the factors that relate to the successful implementation of E-Learning.

The presentation of the study is structured as follows:

Chapter 2 presents a critical review of the E-Learning literature focusing on the more central themes such as the emergence of E-Learning, the impact of E-Learning on traditional learning and learning styles. In addition E-Learning technologies are documented as well as the factors required to successfully implement an E-Learning programme. The benefits and challenges of E-Learning are noted before discussing how E-Learning can impact the way accounting is taught.

Chapter 3 outlines the research methodology applied in this exploratory study.

Chapter 4 provides an analysis of the primary research findings.

Chapter 5 presents conclusions and recommendations.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

The researcher is seeking to establish the nature and extent of E-Learning usage by accounting lecturers in third level institutions in Ireland. The review of literature presented in this chapter has sought to encompass an overview of the core elements of literature that relate to the subject matter of this dissertation. As E-Learning is a relatively unexplored area in the Irish environment the researcher availed of the international literature to set the scene for this dissertation.

The research will be of value to all parties who have an interest in the application and usage of E-Learning technologies in accounting programmes, as the study will reveal the practices, perceptions and commitment to E-Learning by accounting lecturers. Interested parties may include; third level institutions, lecturers of accounting, the accounting bodies, professional accounting educators and E-Learning project managers and trainers.

For the purpose of this research, E-Learning will be discussed in the context of learning and learning styles. E-Learning technologies and associated platforms will also be considered prior to examining the parameters associated with the implementation of a successful E-Learning programme. The literature review also seeks to establish the benefits and challenges of E-Learning as experienced by the organisation, the lecturer and the student.

Finally E-Learning and accounting will be explored. But first to understand and appreciate the origins of E-Learning, it is necessary to discuss the factors that resulted in the emergence of E-Learning.

2.2 THE EMERGENCE OF E-LEARNING

E-Learning emerged as a result of a combination of factors. These include advancements in technology, evolution in society and economic change.

2.2.1 Technological Trends

Technology has influenced the classroom for many years, for example television and radio are renowned for their educational influence, and with the speed of technological innovation, it is vital that pedagogues keep up. One study into the 'Rate of Penetration of New Technology' revealed that radio and television took 30 and 15 years respectively to reach 60 million people whereas the Internet only took 3 years (Asaolu, 2006).

Technological trends influencing education can be traced back to 1872 when Christopher Scholes invented the first typewriter. Comparisons between handwriting speeds and typing speeds resulted in a high demand for typists and as a result, a need for typing classes. In addition the educators noted that students who learned to type also improved their reading and writing skills (Department of International Information Programs, US, 2008).

The unveiling of the first fully electronic computer occurred in 1946 at the University of Pennsylvania. In 1960 PLATO

(programmed logic for teaching operations) invented the first computer assisted instruction (CAI) system at the University of Illinois. The latter was to prove hugely influential in computer-based education globally. This became evident in 1974 when personal computers became available to the public (Department of International Information Programs, US, 2008).

ARPANET, the predecessor of the Internet, was gifted to the public by the US Department of Defence in 1970. The following year email was discovered and a student by the name of Michael Hart, from the University of Illinois, uploaded the US Declaration of Independence. This is seen as the first upload or offering of information to the internet, the oldest digital library in the world.

By the mid 1970s a University course was supplemented by email and in 1981, the first totally online course was run for third level students. This was followed by an executive training course offered online by 1982 (Department of International Information Programs, US, 2008).

The Internet was launched in 1992. Well known offshoots or by-products of the Internet include the World Wide Web, E-mail, Electronic-chat and messaging, Internet-telephony and Interactive content delivery. Interactive content delivery was harnessed to develop new paradigms such as E-Learning (Asaolu, 2006).

2.2.2 Societal Trends

Traditionally third level students were of school leaver age and universities were able to predict the number of enrolments it

could anticipate using high school class numbers. However as a result of students of all ages returning to education (Reeve & Perlich, 2002) and the need for lifelong learning for adults, colleges have acknowledged that the demand on their resources will exceed accommodation levels (Oblinger et al, 2001) and distance education programs will provide an answer to resource constraints.

In addition modern day students require the flexibility to complete courses on a part-time as well as a full-time basis. Students are now selecting courses that best fit their schedules and lifestyles (Department of International Information Programs, US, 2008). Due to family responsibilities and job commitments students shop for courses that compliment their hectic schedules and also their learning styles (Johnstone et al, 2002). E-Learning provides students with the flexibility of learning at their own pace in their own home (Bose, 2003).

In 1998 a study identified that 83% of university governors believed that an essential characteristic of a twenty-first century University was to allow students to obtain education anytime and anyplace by using technology (de Alva, 2000).

2.2.3 Economic Trends

E-Learning can reduce the cost of traditional education and organisational training in a number of respects. Traditional education required students to attend lectures and employees to leave their desks and attend training courses. E-Learning however permits learners to access information on their own time,

when it is convenient to their individual schedules and therefore the intrusion on their daily tasks is minimised (Department of International Information Programs, US, 2008).

Furthermore using E-Learning as a means of education and training can eliminate the secondary costs of education. These costs will vary depending on the provider but typically include transport, location, refreshments, equipment and printing (Brockbank, 2001).

Employers providing organisational training can track the costs of training each employee. This can then be cross-referenced to the employees output and progress and used as an assessment tool. Therefore employers will be able to measure the return on their training investment (Koprowski, 2000).

2.3 TRADITIONAL LEARNING, E-LEARNING AND BLENDED LEARNING

Traditional education refers to long-established ways of teaching that society has traditionally deemed appropriate. Traditional teaching involved teacher-centred methods focusing on continuous learning and memorisation. Conventionally, teachers were at the centre of learning while students assumed a receptive role in their education. In this approach teachers were seen as the 'gatekeepers' of knowledge. However research and studies have unveiled new insights into how people learn and this in turn has resulted in traditional curriculum approaches giving way to new ways of teaching and learning (Dewey, 1998).

Key amongst these changes is the idea that students actively construct their own learning. Consequently this led to the reversal of the traditional teacher-centred learning process to a more student-centred learning process (Dewey, 1998).

In traditional education students never learned how to use higher-level skills such as analysis, synthesis and evaluation. In contrast a student-centred approach believes that students actively participate in constructing their own knowledge by interacting with the information available. Harmon and Hirumi (1996) describe student-centred learning as *'students working in both groups and individually to explore problems and become active knowledge workers rather than passive knowledge recipients'.*

Advances in technology have opened the *'floodgates to information'*. Students have an abundance of information available at their fingertips, whereas before students were predominantly limited to teachers' knowledge, student groups and textbooks (Bose, 2003). Furthermore Cook and Cook (1998) note that fast changing political, social and economic environments often made textbooks and articles outdated soon after they are published. Thus E-Learning not only provides a marriage of Internet, digital technology and learning, but also facilitates a student/learner-centred approach (Bose, 2003).

E-Learning was misunderstood when it was first introduced. People believed it would enable computers to adopt the teacher's role and therefore allow the student to avoid the class permanently. However learning is social and computers, though

making learning convenient, cannot eliminate the need for human intervention (Bose, 2003). *'The presumption that E-Learning would automate every aspect of learning sounds unnatural'* (Internettime.com, 2003).

In contrast, blended learning involves the blending of different learning methods, techniques and resources and applying them in an interactively meaningful learning environment. Pivotal to this type of learning is transparent communication amongst all parties involved with a course and ease of access to different learning resources (Heinze et al, 2004).

Blended learning, also known as mixed learning or hybrid learning, relates to the integration of E-Learning tools and techniques into the teaching environment. Typically this involves the teacher combining technology-based materials and face-to-face sessions to present content (Ward and LaBranche, 2003). Therefore blended learning involves a social element that total online learning does not have (Jones, 2008). Although the use of blended learning has increased in both the corporate and academic world little research has examined its effectiveness relative to traditional face-to-face instruction (Heinze et al, 2004).

2.4 LEARNING STYLES AND ON-LINE LEARNING

A learning style can be defined as a way in which the individual takes in new information and develops new skills (Dunn et al, 1981) or it may be defined as the individual learning method adopted by the learner during the learning process and situation (Kolb, 1976). In order to teach more effectively in online courses, it is essential that instructors know more about differences in

learning and how to address the variety of learning styles found in their students (Zapalska and Brozik, 2006). Byrne et al (2002b) emphasises this by noting that *'the educator can improve educational experiences, when the educator understands how students learn'*.

Ford and Chen (2000) identify a number of factors that influence student learning. These are age, gender, socio-economic status, learner interest, learner attitude, learner motivation, learning experiences and learning style. They also assert that learning styles are considered as one of the more important factors that influence E-learning.

Three different approaches to learning or learning styles have been identified. These learning styles recognise differences in the levels of understanding achieved as a result of a mixture of the intention the student has when approaching the task and the process used to carry it out (Byrne et al, 2002b; Entwistle; 1997). Marton & Saljo (1976) carried out research exploring the link between learning approaches and learning outcomes. Learning outcomes are statements of what a student should understand, know or be able to do at the end of a learning activity. They identified two learning styles that could be matched directly to learning outcomes; these are known as the deep approach and the surface approach. Additional studies carried out by Entwistle and Biggs supported these findings. Further studies by Ramsden in 1979 identified a third approach, the strategic approach.

1. Deep Approach

Students using this approach display a high level of understanding. These students interact vigorously with the content and relate it to previous knowledge and existing experience. They evaluate the reasonableness of the conclusions with the information presented (Beattie et al, 1997; Byrne et al, 1999; Byrne et al, 2002b; Byrne et al, 2004b, Fry et al, 2003).

2. Surface Approach

The surface approach involves meaningless memorisation and reproduction; rote learning is typical of this approach. The learner does not question the information or ideas they have been given and they do not distinguish underlying principles from examples. They fail to interact personally with the knowledge and do not make distinctions between new ideas or existing knowledge. The surface approach results in information being constrained in structures that cannot be applied in new circumstances. This approach is associated with the students having a low level of understanding (Beattie et al, 1997; Byrne et al, 1999; Byrne et al, 2002b; Byrne et al, 2004b, Fry et al, 2003).

3. Strategic Approach

Students who adopt the strategic approach intend to obtain the highest possible grade and are very competitive. They organise their time and effort in a way so as to achieve maximum effect. This student will ensure they are equipped with the necessary conditions and materials to ensure study time is maximised. To meet the specific learning requirements of a topic they may adopt

the deep and surface approach when necessary (Byrne et al, 1999; Byrne et al, 2002b; Fry et al, 2003).

Burd and Buchanan (2004) suggest that successful online students are 'active learners' who take responsibility for their own learning and communicate effectively in both a synchronous and asynchronous environment using a variety of technologies.

When instructors are knowledgeable and understand the different learning approaches, they are equipped to modify their teaching strategies and techniques. This will enable them to develop a learning environment that ensures their resources, methods, and materials suit the learning styles of their students (Zapalska, 2006)

The move from the traditional face-to-face classroom environment to an environment employing E-Learning technologies requires commitment from both the lecturer and the learner. When individuals are enthusiastic about teaching and learning online and are willing to use the technology at hand to communicate effectively this will result in successful online learning (Burd & Buchanan, 2004).

Lecturers who adopt a student–centred approach and wish to show consideration for students with different learning styles can create courses using a diversity of techniques and formats to attract all types of learning styles. *'This addresses dominant learning preferences and provides learners with additional*

opportunities to develop other learning styles' (Burd & Buchanan, 2004).

Therefore lecturers can incorporate E-Learning technologies into their lectures and student homework and assignments, to encourage 'surface' learners to develop a deep or strategic approach to learning and ultimately encourage higher quality learning.

2.5 E-LEARNING A CLOSER LOOK

E-Learning is facilitated and supported through the use of information and communications technology (JISC, 2004).

2.5.1 E-Learning Technologies

Some or all, of the following technologies can be used in E-Learning:

- desktop and laptop computers;
- software, including assistive and collaborative software ;
- interactive whiteboards; this involves a large interactive display that connects a computer to a projector. The projector projects the computers desktop onto the board's surface where users control the computer using a pen or other device;
- digital technologies such as audio and photography;
- mobile and wireless tools, including mobile phones;
- electronic communication tools, including email, discussion boards, chat facilities and video conferencing;
- virtual learning environments;
- learning management systems;

E-learning can be asynchronous or synchronous in nature. For instance asynchronous activities use technologies such as email, computer conferencing and forums. The idea is that participants can engage in the exchange of ideas or information without the involvement of the other participants at the same time. Alternatively synchronous activities involve one or more participants exchanging ideas and information with each other at the same time. E-Learning synchronous technologies include real-time chats and video conferencing (Harasim, 2006).

2.5.2 Virtual Learning Environment and other systems

A VLE is a learning management system that creates the functionality of computer-mediated communications and on-line methods of delivering course materials (JISC, 2004). They can also be referred to as software systems intended to support teaching and learning in an educational setting (Sharpe et al, 2006). At its most basic a VLE is a secure website, 'a shell', but in turn can be populated by the teacher with tools to meet the needs of their course and their teaching style (Bogney et al, 2005).

Throughout the literature reference is also made to management learning environments (MLE) and learning management systems (LMS). These systems are also synonymous with E-Learning though a distinction can be made between these systems and VLEs.

Management Learning Environment

MLEs are the entire range of information systems of an organisation that contribute directly or indirectly to learning and the administration of that learning. They are distinct from VLEs as MLEs focus on management where as a VLE may only be a component of an MLE (JISC, 2002).

Learning Management System

LMS are systems that organise and manage E-Learning activities within a system as opposed to a VLE that is used for purely learning purposes. The LMS is suited to manage such things as student enrolment, exams, assignment, course descriptions, lessons plans, messages, syllabus and basic course material. Furthermore it can be said that LMS are designed for management and the delivery of learning, but do not assist in the self-governing activities of students (Dalsgaard, 2006). However it is important to note that literature originating from the United States use the terms LMS and VLE interchangeably (OECD, 2005).

While originally created for distance education, VLEs are now also used to supplement traditional face-to-face classroom activities known as Blended Learning (Capus et al, 2006). VLEs use communication technologies to provide tools such as course material, including documents and web pages, discussion boards, mail systems, live chat etc. They can be moulded to suit both the student and the teacher (Capus et al, 2006). Typical tools used by teachers include assessment tools, for example multiple choice, communication, uploading of content, return of students' work, peer assessment, administration of student groups,

collecting and organizing student grades, questionnaires and tracking tools (JISC, 2002).

Students in turn use VLEs to access course material and navigate through it in a manner that best compliments their pace and aptitude. The learner can assess their knowledge by completing online quizzes and use discussion boards or chat-facilities to obtain further explanations or clarifications on the given subject (JISC, 2002).

Examples of VLEs include WebCT, Blackboard, Moodle, Bodington, Learning Space, Freeware, Angel Learning, etc. (Capus et al, 2006). Blackboard Incorporated is the owner of Blackboard, WebCT and Angel Learning. A survey carried out by the universities and colleges information systems association (UCISA) and the JISC in 2001 and 2005, into the use of VLEs by higher education in the United Kingdom, identified that Blackboard and Web CT were the continued preferred commercial solution, while Moodle and Bodington were used in a smaller percentage of institutions. The surveys also identified a rising trend toward in-house development (Browne et al, 2006). A study carried out by the OECD in 2005 also revealed similar results; however this study involved thirteen countries.

Dalsgaard (2006) suggests that instead of integrating all functions within a system, the approach to E-Learning should involve students choosing tools that support their needs and therefore '*providing students with a tool box of opportunities'*. He also suggests that these tools combined with social software and a

management system empower student learning. Hence students can use personal tools to support their own learning and group learning.

Personal tools are tools that are used by students for various reasons, such as writing, presenting drawing or programming. These can be split in to two categories, individual tools and collaborative tools. Individual tools are tools that are owned and controlled by the individual student e.g. email, calendars, assignment tools etc. On the other hand collaborative tools are tools used by students working in groups; examples of these are wikis, discussion forums, file sharing and weblogs. Social software is another form of collaborative software but it is used in a social rather than a learning context. Examples of social software are facebook, Bebo, twitter, myspace and online dating services (Dalsgaard, 2006).

Dalsgaard (2006) also observes that the decision to use an integrated system or separate tools is a pedagogical argument. The argument being that each student's learning activity cannot be structured or pre-determined.

2.6 IMPLEMENTATION OF A SUCCESSFUL E-LEARNING PROGRAMME

Upon reviewing different organisations' initiatives regarding the development of E-Learning practices in the United Kingdom, Oliver and Dempster (2003) concluded that there does not appear to be any ready model or any single clear path that will ensure the successful implementation of E-Learning. The operational context

is thus crucial to the choice of tactics that are likely to lead to success.

Consequently, before an organisation expands its use of E-Learning a clear and honest analysis of the organisation's strengths and weaknesses in the context of its overall strategy is required. An organisation must be fully aware of not alone where it's going to, but where it's coming from (Stiles, 2004).

Bixler and Spotts (2000), identify seven parameters affecting the successful implementation of E-learning. They are:

1. institutional support;
2. course development;
3. teaching and learning;
4. course structure;
5. student support;
6. faculty support; and
7. evaluation and assessment.

Commitment at management level is fundamental to the effective implementation of an E-Learning strategy. This can be demonstrated in the form of an E-Learning committee, support department, officer etc. Any changes to staff roles or job descriptions must be communicated and accepted by all staff. Strategies and procedures must be developed and applied consistently so all involved are aware of the stages of course development and implementation. Training should be provided where necessary and staff input and feedback should be encouraged (Bixler and Spotts, 2000).

As E-Learning moves away from the traditional face-to-face way of teaching, students should be aware of the flexible and independent approach required, whereby learning will involve interaction with programmed learning environments. Therefore students should be aware prior to commencing the course that they will be expected to engage in electronic learning and will be evaluated and assessed through various E-Learning assessment techniques (Bixler and Spotts, 2000).

Harasim, (2006) suggests that an E-learning programme when designed and implemented successfully will represent gains in key indicators such as:

- learning effectiveness
- educational access
- satisfaction by instructors and learners
- completion rates
- and institutional and workplace innovation.

The goal of E-Learning is that it provides a better environment for learning (Mayadas, 2002), yet Harasim (2006) notes that a key research question yet to be addressed is what are the indicators of success for E-Learning environments?

2.7 THE GROWTH OF E-LEARNING

Contrary to the prediction of many, distance on-line learning in general and cross-border E-Learning have generally failed to emerge as noteworthy activities. The 2005 OECD report involving 19 institutions in 13 countries found that cross-border enrolments for E-Learning represent only a small number of overall

enrolments. In fact E-Learning activities were more commonly used to supplement on-campus delivery at undergraduate level. However programmes involving a significant on-line element were more common among postgraduate level, possibly implying that on-line courses favour the mature student with life commitments.

In addition the report found that certain disciplines were more prone to use E-Learning than others. For example IT and business management courses were more inclined to make significant use of E-Learning, especially in the mixed mode and fully on-line categories.

However a survey carried out by the OBHE in 2004 revealed that only 9% of 122 third level institutions surveyed did not have an E-Learning strategy compared to 18% in 2002. The report found that the motivation to develop E-Learning capabilities was to improve on-campus programmes by increasing flexibility and content and not, as expected, to develop international markets and new markets or to minimise costs by reducing time spent in the classroom.

The OBHE survey also reported that the adoption of technology with E-Learning capabilities has had greater impact on administrative services such as admissions, registration etc. rather than on the fundamentals of classroom teaching and learning. However the report identifies that although the classroom has yet to be revolutionised by technology it is altering the experience of students by relaxing time and space constraints and enabling easier access to information (OBHE, 2004).

An emerging trend was the development of in-house software to support learning. The report suggests that such developments are undertaken as a result of perceived inadequacies of commercial offerings plus a desire to retain institutional autonomy as this may represent valuable intellectual property. However the report warns that undue focus may be put on infrastructure when the main focus could possibly lie in making innovative and effective use of the technologies available to faculty and students (OECD, 2005).

The OECD report recommends building a community of E-Learning users within and across institutions. This in turn will lead to good practices and faster growth in E-Learning achieving benefits such as advanced technology and educational quality as well as enhanced market presence and lower costs (OECD, 2005).

2.8 THE BENEFITS AND CHALLENGES OF E-LEARNING

E-Learning impacts the educational organisation, the teacher and the student. When addressing the benefits and challenges of E-Learning therefore, all three stakeholders must be considered.

2.8.1 The Benefits of E-Learning

1. Organisation

- E-Learning promotes greater skill in information technology. These skills lead to corporate competitiveness and access to wider markets (Stephenson, 2001).
- E-Learning encourages blended learning which incorporates student learning styles resulting in effective learning (Zapalska, 2006).

- The cost of course delivery is cheaper once the course has been designed as E-Learning requires development of training tools and supplementary information such as frequently asked questions and databases of relevant articles (Uhomoibhi, 2006).
- E-Learning provides a platform to deliver a uniform teaching doctrine to students (Uhomoibhi, 2006).
- E-Learning lends itself to a more environmentally friendly approach to learning in that notes and handouts are minimised as course materials and supplementary notes are electronic.

2. Lecturer
   - Teachers can spend more time evaluating issues and applying knowledge and less time on basic information (Uhomoibhi, 2006).
   - E-Learning improves out-of-class communication (Brockbank, 2001).
   - Teachers can build on their E-Learning resources each year and develop a body of knowledge (Uhomoibhi, 2006).
   - By using E-Learning teachers can track and analyse student efforts and contributions more easily as there is an electronic record at their fingertips (Brockbank, 2001).

3. Student
   - E-Learning ensures a greater body of knowledge is available to the student. Course materials are easily accessed and support is available by way of interactive chat rooms, synchronous and asynchronous software (Harasim, 2006).

- Learning can take place anytime and anywhere. Therefore family life, work commitments etc do not have to be rearranged to make learning possible. In actual fact it can be said that E-learning facilitates modern life. Furthermore course choice may no longer be restricted by geographical proximity (Richardson, 2003, Knight, 2003).
- The student's researching skills are improved as a result of the student having to obtain information and research materials electronically (McVay Lynch, 2002).
- E-Learning brings with it additional cost savings. For example, travel to classes is not required and information does not have to be copied or noted as information can be re-accessed (Brockbank, 2001).

2.8.2 The Challenges of E-Learning

1. Organisation
    - Initial costs of implementing E-Learning are very high and there is also a learning curve which will impact on time and training (Roffe, 2002).
    - The most effective E-Learning requires great organisational commitment and careful planning and coordination of activities involving buy-in from staff, students and the organisation. Failure to secure support at any level will result in failure (Uhomoibhi, 2006).
    - The organisation will have to recruit technological experts to compliment academic staff to ensure successful implementation (OECD, 2005).

- If E-Learning courses are not properly designed they can result have a negative impact on the effectiveness a course and course delivery (Bose, 2003).

2. Lecturer
   - The initial use of E-Learning will require greater effort from lecturers as course notes and course delivery will have to be planned, designed, structured and uploaded in a manner that results effective E-Learning (Uhomoibhi, 2006).
   - Some teachers may lack the IT skills required for developing their E-Learning course and therefore have to spend considerable time and effort bringing themselves up to standard (Uhomoibhi, 2006).
   - Some teachers may prefer face-to-face rather than electronic learning (Uhomoibhi, 2006).
   - E-Learning implies the sharing of information. This may conflict with the professional culture of academics which is often based on autonomy and a reward system based on research. In addition concerns about intellectual property rights may also pose a problem (OECD, 2005).

3. Student
   - Similar to teachers, some students may find the lack of face to face with their teacher difficult and counter-productive (Uhomoibhi, 2006).
   - E-Learning can be lonely and lack social interaction, furthermore electronic learning requires a self-motivated and independent learner (Bose, 2003).

- E-learning by its very nature requires proficiency in IT skills and if the student is not up to speed with the specific technologies used they will be at a disadvantage before commencing their study (Stephenson, 2001).
- Group based forums such as discussion boards are not suited to all learners. Some students may lack confidence or simply typing skills to keep up with correspondence (Uhomoibhi, 2006).

2.9 TEACHING ACCOUNTING AND E-LEARNING

As previously outlined, students can adopt three learning styles when learning, these being, the deep approach, the surface approach and the strategic approach. The deep approach is the approach recommended for accounting students as it entails the student striving for meaning and understanding which enables them to store knowledge in structures that facilitates its application in other contexts (Svensson, 1977, cited by Byrne and Flood, 2004).

Byrne, Flood and Willis (1999) suggest the following implications as a result of their research into the 'approaches to learning of Irish students learning accounting':

1. Strategies need to be developed which encourage a deep approach to learning in order for the students to succeed in their future careers.
2. Care must be taken when introducing changes into the accounting courses as the environment is very complex and this could ultimately impact on the student's approach to learning.

3. Understanding the learning environment is a must before devising effective intervention strategies. Changes to curriculum and context without appreciation of the learning environment may not generate the desired effect that is, improvement in the quality of student learning.

Ramsdens (1992) 'Model of Student Learning in Context' indicates that student perceptions of the task requirements dictate the learning approach adopted. Their perceptions of task requirements are influenced by two main factors. The first is the students' preference towards studying, impacted by previous educational experiences and the second factor is the context of learning within individual courses. Teachers cannot change students' learning preferences; however they can change the learning context by changing curriculum design, teaching methods and assessment tasks. This provides opportunity for teachers to influence the learning approach adopted by students and ultimately improve the quality of student learning.

When learning styles were examined within the area of business it was discovered that the learning styles of accounting and finance students differed from the learning styles of marketing and management students (Biberman and Buchanan, 1986). Therefore it is fundamental that a teacher of accounting ensures the learning environment is equipped to cope with all learning styles. Zapalska and Brozik (2006) recommend that the following three strategies can be used to address different learning styles in an online course:

1. Course content should be provided in multiple formats. This can be achieved by the use of communication techniques.

Lectures can be audio streamed and synchronised with a power point presentation. In addition they can also be posted to WebCT (or indeed another VLE) and presented through WebCT chat room discussion groups. Each course should also have links to external websites for supplementary information on the topic at hand.

2. Allow students to control their navigation through course content. The course material should be set up so it can be accessed in several ways. The course may be built in a hierarchical sequence but the students should be able to move about the topics in whatever order they like.

3. Encourage active and collaborative interaction. Activities should consist of both individual and group-based exercises. Virtual teams should work together to solve problems, analyse cases and develop group deliverables.

'Accounting academics have an important role to play in maintaining the quality, relevance, and attractiveness of their programmes. It is vital to equip students with more versatile skills to enable them to become premier business advisors as opposed to merely custodians of technical knowledge'.

(Byrne and Flood, 2004)

2.10 CONCLUSION

The literature has revealed that E-Learning emerged as a result of advances in technology, the evolution of society and changes in economic conditions. It is suggested that E-Learning has the potential to revolutionise learning. But whilst E-Learning has facilitated a more student-centred approach and a move away from the traditional teacher-centred approach, it is apparent from the literature that the prediction that E-Learning would increase the number of on-line courses and distance courses has not happened and in fact E-Learning is being used to enrich and supplement on-campus programmes.

Furthermore the literature has revealed that the application of E-Learning has the capacity to influence the way students learn, therefore providing student accountants and indeed other students with the scope to learn efficiently and equip themselves with the skills required by their chosen profession. However the growth of E-Learning seems somewhat subdued as a result of the challenges encountered by educators and students. The literature highlights that in order to achieve successful E-Learning it must be carefully considered and implemented and the tools and technologies associated with it fully understood and utilised.

In the next chapter the researcher will explain the research methodology applied to carry out this exploratory study. The research objectives will be implemented through the construction of a questionnaire and activated through the development of field questions.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

The word methodology refers to the theory of how research should be undertaken (Saunders et al, 2007). In other words it outlines the steps involved in the research. Although there are many definitions of research methodology the over-riding consensus is that research methodology refers to the systematic process of collecting and analysing data and explains why the particular process has been adopted, with the ultimate aim being to increase the understanding of the phenomenon concerned.

3.2 RESEARCH PHILOSOPHY

When designing the research, the researcher must firstly decide on the most suitable research paradigm to pursue in terms of designing and gathering the research. Collis and Hussey (2003) state that the term paradigm is the progress of scientific practice based on people's philosophies and assumptions about the world, the nature of knowledge and consequently how research should be conducted. The literature reveals two over-riding paradigms, positivism and phenomenology.

3.2.1 Positivist Research

Positivist research involves gathering data using a structured approach and analysing and interpreting this data in a statistical and factual manner that permits extrapolation. Saunders et al (2007), highlight that one of the features in determining positivistic research is the role of the researcher who remains

independent of the study sample and therefore, adopts the philosophical stance of the natural scientist.

Gill and Johnson (1997) describe positivist research as having a number of characteristics, some of which are:

- seeks to explain the relationships between variables
- it is deductive
- generally uses quantitative data
- it uses controls to test a hypothesis
- it is a highly structured methodology allowing repetition
- Generalisations can be extrapolated from one sample to the population.

3.2.2 Phenomenology Research

Phenomenological research is a flexible approach to data gathering that focuses on the meanings behind the research. It assumes that the social world changes continually and that the researcher is included in this. Each situation is seen as unique and its meaning as a function of the individuals and circumstances involved. Unlike the positivist paradigm, phenomenological focuses on understanding and appreciating the different structures and meanings people place on their experience (Malhotra, 1999; Saunders et al, 2007).

Other distinguishing features of phenomenological research, as noted by Hussey and Hussey, (1997) and Saunders et al (2007) include:

- it is concerned with generating theories
- it usually produces qualitative data

- it uses smaller samples than interpretive research
- data is rich and subjective.

3.2.3 Research Philosophy Adopted

The research philosophy adopted must compliment the research aim and objectives as set out in 1.3. Therefore the phenomenological approach was selected as the researcher believes that the research question is more inclined towards theory generation rather than the testing of a hypothesis. The researcher also selected this method for its strengths in enabling a broader understanding of E-Learning and the applications used.

3.3 THE RESEARCH APPROACH

There are primarily two approaches to research, the deductive and inductive approach. Saunders et al (2007) state that the extent to which one is clear about the theory at the beginning of their research raises an important question regarding the design of their research, that is, what approach should be adopted.

3.3.1 The Deductive Approach

The deductive approach is known as the dominant approach in the natural sciences. It involves the testing of a hypothesis. The outcomes of the tests are examined and the theory either upheld or modified according to the results of the findings (Saunders et al, 2007). This method can be referred to as moving from the general to the particular (Hussey and Hussey, 1997).

3.3.2 The Inductive Approach

This approach is the reverse of the deductive approach. It involves the development of a theory from the observation and

analysis of data. Therefore the inductive approach entails moving from the specific to the general (Hussey and Hussey, 1997).

3.3.3 The Research Approach Adopted

The inductive approach was adopted as the researcher was trying to determine the nature and extent of E-Learning usage by accounting lecturers in their teaching of accounting. Therefore the researcher developed a theory after the data collected, via questionnaires, was collated and analysed.

3.4 THE RESEARCH PURPOSE

Saunders et al (2007) state that the classification of the research purpose most often used in the literature can be threefold, exploratory, descriptive and explanatory. It is essential that the researcher understands the purpose of their study as this in turn will enable them to select the most appropriate data gathering method and to structure the questions in a manner that best derives the required information.

3.4.1 Exploratory Research

Exploratory research is a type of research design that *'has as its primary objective the provision of insights into and comprehension of the problem confronting the researcher'* (Malhotra, 1999). It is also used to investigate the possibilities of undertaking a research study or to develop, refine or test measurement tools or procedures (Kumar, 1999). Although this research purpose rarely provides conclusive answers it highlights areas where future research is required.

3.4.2 Descriptive Research

Descriptive research *'is a type of conclusive research which has as its major objective the description of something- usually market characteristics or functions'* (Malhotra, 1999). Kumar (1999) elaborates further by suggesting that this type of research attempts to describe such things as a situation, problem, phenomenon, service, program or attitudes towards an issue.

3.4.3 Explanatory Research

Explanatory research seeks to explain why there is a relationship between two aspects of a situation or a phenomenon (Kumar, 1999). This research strives to understand a phenomenon by identifying and understanding casual relations within a situation.

3.4.4 Research Purpose Adopted

The research approach adopted was both of a descriptive and exploratory nature. The descriptive element of the research involved reviewing the relevant literature and documenting the findings in the literature review. The exploratory element concerned the opinions and practices of the accounting lecturers which were obtained via questionnaires.

3.5 PRIMARY AND SECONDARY DATA

The data utilised by the researcher can be categorised as primary and secondary data. Primary data is data that is collected or produced by the researcher to explicitly address the research question. The researcher can collect primary data by using a number of methods, however the researcher must choose the method or combination of methods that best suits the research question, compliments the skills of the researcher and utilises the

resources available. Additionally the benefits and limitations of each method must be considered (Chisnall, 1997). On the other hand secondary data refers to data that exists as a result of previous studies or compilations. It can take many forms such as journals, newspapers, organisations databases, media accounts, government statistics, consumer surveys, government surveys etc. The value of the data will depend on such characteristics as validity, reliability, relevance, personal bias and format (Kumar, 1999; Saunders et al, 2007).

The researcher obtained valuable peer reviewed literature by carrying out an extensive literature search. This qualitative data in turn created a strong theoretical foundation upon which this study could be built. Some inconsistencies were discovered amongst the definitions of E-Learning, however the researcher tried to overcome these inconsistencies by documenting them in the literature review.

3.5.1 Data Collection Methods

Saunders et al (2007) describe the methods suited to primary data collection to be observation, structured interviews, semi-structured interviews, unstructured or in-depth interviews and group interviews, case study and questionnaires.

1. Observation

The observation method of data collection involves the recording of behavioural patterns of people, objects and events in a systematic manner so as to obtain information about the phenomenon of interest. Observation can be structured or

unstructured and can be a natural observation or a contrived observation (Malhotra, 1999).

2. Interviews

Saunders et al (2007) categorise the various type of interview as follows: structured, semi-structured and unstructured or in-depth interviews. Structured interviews use questionnaires based on a standard set of questions. This type of interview can also be referred to as a quantitative research interview and is used in descriptive studies as a mean to identify general patterns.

By comparison in-depth and semi-structured interviews are referred to as qualitative interviews. Unstructured interviews usually involve an in depth exploration of an area of interest. Although the interviewer has a clear idea of the area of exploration the interviewee is encouraged to speak openly and freely. In-depth and group interviews are best suited to sensitive discussion topics. Interviews can also be recorded but the permission of participants must be granted (Saunders et al, 2007). Other interview methods include non-standard one-to-one and non-standard one-to-many or group interviews.

3. Case Study

Kumar (1996) defines case study as: *'an approach to studying a social phenomenon through a thorough analysis of an individual case. The case study may be a person, group, episode, process, community, society or any other unit of social life.'*

The case study method can incorporate data collection methods such as interviews, observation etc. Saunders et al (2007) suggest that case study is a very worthwhile method of exploring existing theory.

4. Questionnaires

Questionnaires are one of the most suitable means of obtaining quantitative data. They are descriptive and exploratory in nature and usually include the what, where, when and how questions. At its simplest a questionnaire includes techniques of data collection, in which people are asked to respond to the same set of questions in a predetermined order (Chisnall, 1997; Saunders et al, 2007).

One of the main advantages of questionnaires is that they can be circulated to a large number of people at a relatively low cost. They are usually simple to complete and if circulated via email, responses can be swift. Questionnaires enable a large number of issues to be addressed in a relatively efficient way and as data is standardised, collation and analysis is usually straight-forward. However questionnaires can have a low response rate and usually respondents are restricted in including additional opinions (Saunders et al, 2007).

3.6 THE RESEARCH PROCESS AND FIELDWORK

The research process adopted by the researcher can be seen in figure 1 below. It outlines the steps taken by the researcher to answer the research question. Each step will be discussed in detail next.

Figure 3.1 The Research Process

3.6.1 Identifying the Research Topic

The research topic chosen by the researcher is to *'investigate the nature and extent of E-Learning adoption by accounting lecturers in Institutes of technology and universities in the Republic of Ireland'.*

3.6.2 Define the Research Problem

The researcher defined the research question by clearly listing the aims and objectives of the research, as illustrated in 1.3.

3.6.3 Conceptualise a Research Design

A core part of research activity is to develop an effective research design. A good research design 'will ensure that the information obtained is relevant to the research problem and that it was collected by objective and economic procedures' (Chisnall, 1997). As a result of discussing the research question with a number of experts in the field of E-Learning and reading relevant literature on research design the researcher concluded that the most suitable method for collecting secondary data, after taking into account constraints such as time, travel and financial, was through the administration of questionnaires.

In addition the research to be conducted was descriptive in nature commanding quantitative data and as a result the use of the observation, interview and case-study methods coupled with the aforementioned constraints meant that these methods were not feasible in this instance.

3.6.4 Sample Selection

As electronic questionnaires were the means of data collection the researcher decided to solicit the total population. The research population included all lecturers teaching accounting subjects in thirteen institutes of technology and seven universities in the Republic of Ireland. The names and email addresses of the accounting lecturers were predominantly obtained from the websites of the Institutes of Technology and the Universities. However a number of problems were encountered. Some websites did not specify what subjects were taught by each lecturer, other websites were out of date and the researcher received an 'undelivered to unknown recipient' email. Lastly when a number of third level colleges were rang directly and asked to confirm the names and email addresses of lecturers who taught accounting related subjects, several administrators were unwilling to disclose the requested information. After taking account of additional information received regarding inaccurate web-site information and clarification by administration staff, the population of accounting lecturers amounted to 150.

3.6.5 Questionnaire Design

Questionnaires are a widely used research tool, however in order to obtain reliable and relevant responses it is important that they are designed using well thought out structured questions. Saunders et al (2007) suggest a number of matters that should be considered when using questionnaires: the order and flow of questions, the layout of the questionnaire, the covering letter, introducing the questionnaire and closing the questionnaire.

The researcher decided to design and develop the questionnaire as the exemplars of questionnaires obtained were not suitable for the research being undertaken. The questions consist of predominantly closed questions. All questions are based on the findings of the literature review and designed and structured so as to eliminate any possible ambiguity.

The researcher used list, scale and category questions. The list questions allowed the respondent to choose from a list of responses which ultimately derived the E-Learning practices within the organisation. A text box was also included so the respondent could add extra responses if they so wished. Scale questions were used to collect the opinions and perceptions of the lecturers. The Likert five-point scale was adopted to capture whether respondents strongly agreed to strongly disagreed with certain statements. Category questions were included to specifically collect data about behaviour and attributes.

Questionnaire Structure

The researcher addressed the research objectives in section 1.3 by dividing the questionnaire into 6 sections.

Section 1

The first section was designed to obtain general information, such as organisational type, gender, age etc.

Section 2

Section 2 looked at E-Learning at an organisational level. This section concerned both organisational practices and the opinions

and perceptions of the lecturer pertaining to the support received from the organisation. The field questions in this section were directly associated with objective 1a as set out in section 1.3.

Section 3

The third section also addressed objective 1a and requested that the lecturer identify the E-Learning technologies available within the organisation.

Section 4

The fourth section examined the technologies used by the lecturer. In addition the perceptions and opinions of the lecturer were requested in relation to information obtained from the literature review. The field questions in section 4 relate to the objective 1b.

Section 5

Section 5 dealt with the perceptions and opinions of the lecturer regarding the implementation of an E-Learning strategy and directly relate to objective 2a.

Section 6

Section 6 requested the lecturer to identify the benefits and challenges of E-Learning from a lecturer, student, organisational and general standpoint. This section also relates to objective 2a.

The questionnaire was electronic in format for a number a number of reasons. Emailed questionnaires reach their population immediately, responses are received promptly and reminder

emails are quick and easy to generate. Once the questionnaire was designed it was pilot tested and three amendments were made as a result.

3.6.6 Commissioning the Questionnaire

The researcher successfully emailed the questionnaire to 150 lecturers. The questionnaire was accompanied by a covering letter explaining the purpose of the research. Two reminder emails were sent within nine days of the first email to those who did not respond. Forty valid responses were received representing 26.7% of the total population.

3.6.7 Return of Questionnaires

A control spreadsheet was set up to record and monitor the status of the total population and to avoid a reminder email being sent to recipients who had already returned the questionnaire.

3.6.8 Collation of Questionnaires

The data collected from the questionnaires was collated and analysed using excel. The researcher used a combination of charts and graphs to illustrate the results of the data and then further analysed the data by critically evaluating the data received against the literature reviewed.

3.7 ETHICAL CONCERNS

The research was carried out with a high degree of professional integrity. The researcher included a confidentiality statement on all emails which reassured the respondents that their names would remain anonymous in the analysis of the research.

3.8 LIMITATIONS OF THE RESEARCH

The limitations of the research were two-fold. The researcher was limited in terms of existing literature regarding E-Learning in third level institutions in Ireland. In addition the researcher was constrained by time and finances that resulted in the researcher being unable to travel to conduct interviews or buy articles external to the college remit.

3.9 CONCLUSION

The research was undertaken to investigate the nature and extent of E-Learning adoption by accounting lecturers. The inductive approach has been adopted as the research will require interpretation. The research is also descriptive and exploratory by nature. The data will be obtained through the circulation of electronic questionnaires and collated using excel. Chapter 4 details the findings and analysis of the research.

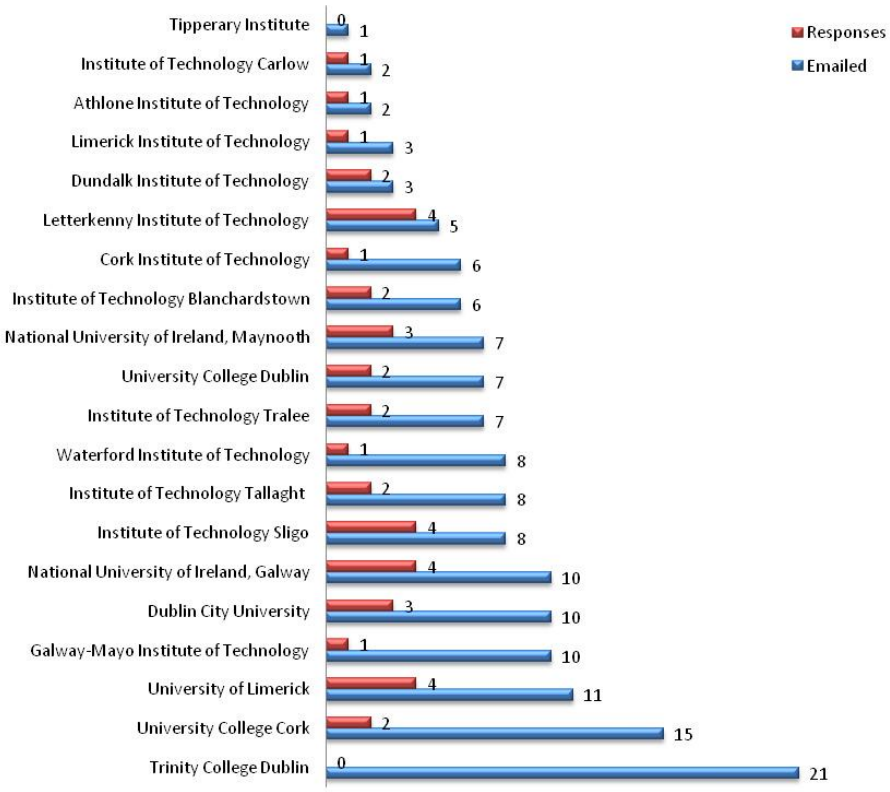
CHAPTER 4

RESEARCH ANALYSIS AND FINDINGS

4.1 INTRODUCTION

This chapter will examine and analyse the data collected from the research process. The researcher will consider the research findings within the context of the research objectives as previously outlined in chapter 1. The questionnaire results will be explained using a combination of charts and narrative methods.

Figure 4.1 Profile of respondents



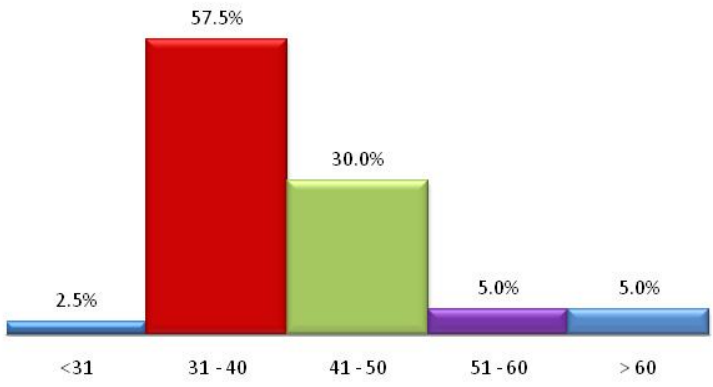
As illustrated in figure 4.1, forty responses were received from the 150 questionnaires commissioned, representing a response rate of 26.7%. Of the 20 third level organisations emailed, responses were received from 18. Responses were not received from accounting lecturers working in Trinity College Dublin and The Tipperary Institute.

4.2 GENERAL INFORMATION

Twenty two responses were received from institutes of technology, representing 55% of respondents and the remaining 18 responses were from universities, representing the remaining 45% of respondents. In addition 21 of the responses were from female lecturers and 19 from male lecturers.

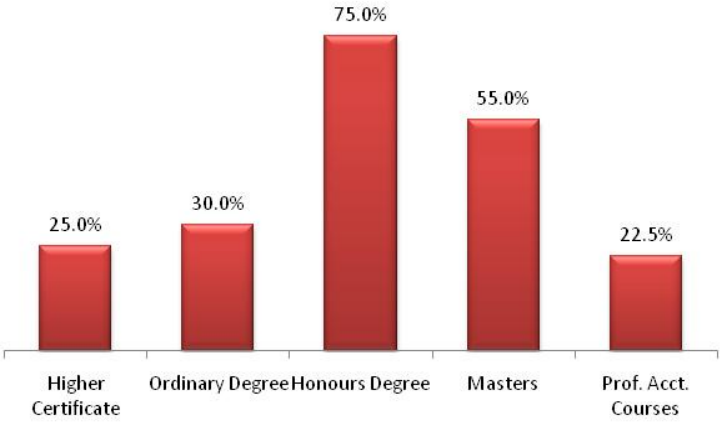
The age profile of the respondents can be seen in figure 4.2 below. The majority of respondents, approximately 88% are between the ages of 31 and 50.

Figure 4.2 Age distribution of respondents



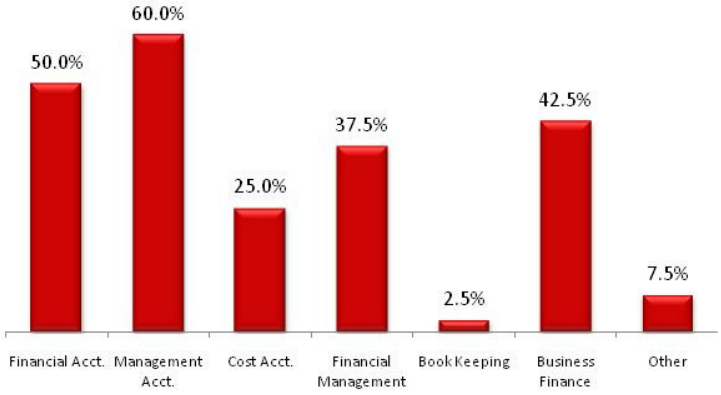
As can be seen from figure 4.3, respondents teach at all levels, from higher certificate level to masters and professional level. The data confirmed that all respondents teach to the level of ordinary degree or higher.

Figure 4.3 Level of teaching



The range of subjects taught by respondents can be seen in figure 4.4. Over half of respondents teach both financial and management accounting. Additional accounting subjects' taught and represented by the 'other' category are financial information analysis, financial analysis and accounting research methods.

Figure 4.4 Subjects taught by respondents

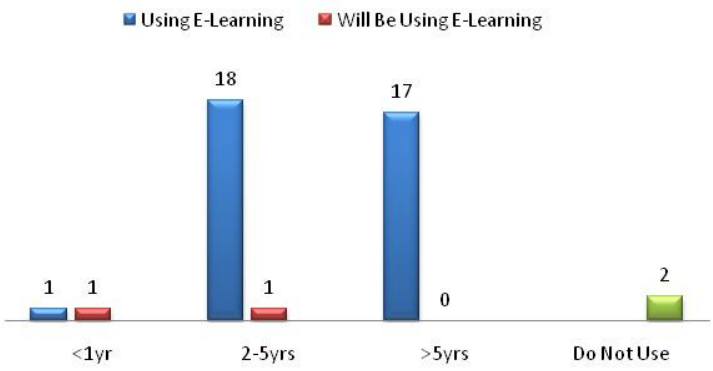


4.3 USAGE AND COMMITMENT TO E-LEARNING AT ORGANISATIONAL LEVEL

4.3.1 E-Learning usage within the organisation

As presented in figure 4.5, 36 respondents equating to 90% of the population confirmed that their organisation was using E-Learning. Seventeen respondents have been using E-Learning for over five years, while 18 respondents have been using E-Learning for between two and five years. Two respondents indicated that their organisation intends to implement E-Learning in the future and the remaining two specified that their organisations do not use E-Learning nor do they intend to do.

Figure 4.5 Usage of E-Learning in organisation

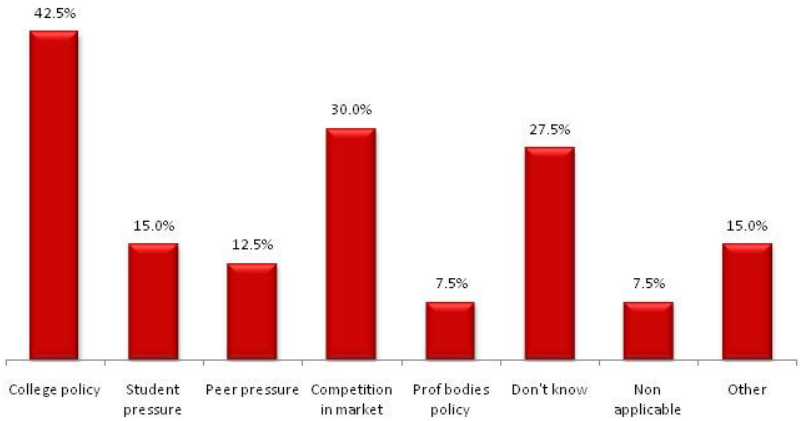


4.3.2 The motivation to adopt an E-Learning strategy

As illustrated by figure 4.6, respondents identified that college policy was the primary motivation for their organisation adopting an E-Learning strategy with 42.5% of respondents indicating such. The second highest motivation was competition in the

market, at 30%. Nearly 8% of respondents indicated that the reason for adoption was as a result of professional body policy. Other reasons offered by respondents include, recommendations by staff, enhancement of the student experience and educational benefits. However 27.5% of respondents did not know what motivated their organisation to adopt an E-Learning strategy.

Figure 4.6 Motivations to adopt an E-Learning strategy

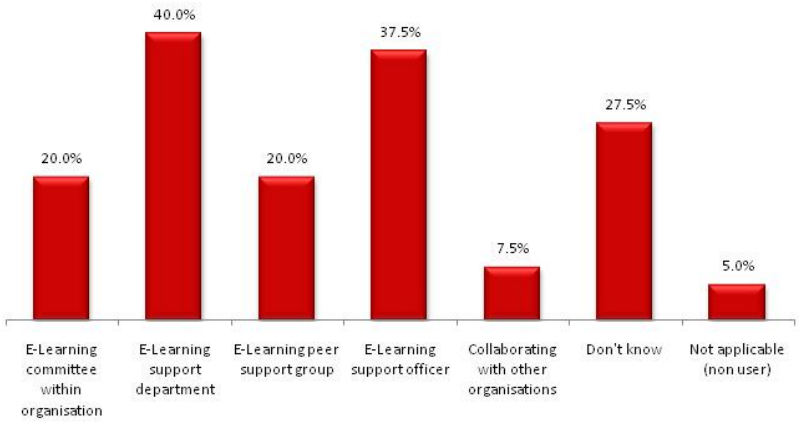


4.3.3 The extent of the E-Learning strategy within the organisation

One fifth of respondents indicated that there was an E-Learning committee, 40% an E-Learning support department and 20% an E-Learning peer support group within their organisation. Further analysis identified that although some organisations had all three support functions, 52.5% of respondents had at least a committee or support department or peer group within their organisation. Furthermore all respondents who indicated that their organisation collaborates with external organisations had an E-Learning committee or support department in place.

Of the 37.5% of organisations who have an E-Learning officer in place, 22.5% of these also have some form of support committee or group.

Figure 4.7 The E-Learning strategy within the organisation

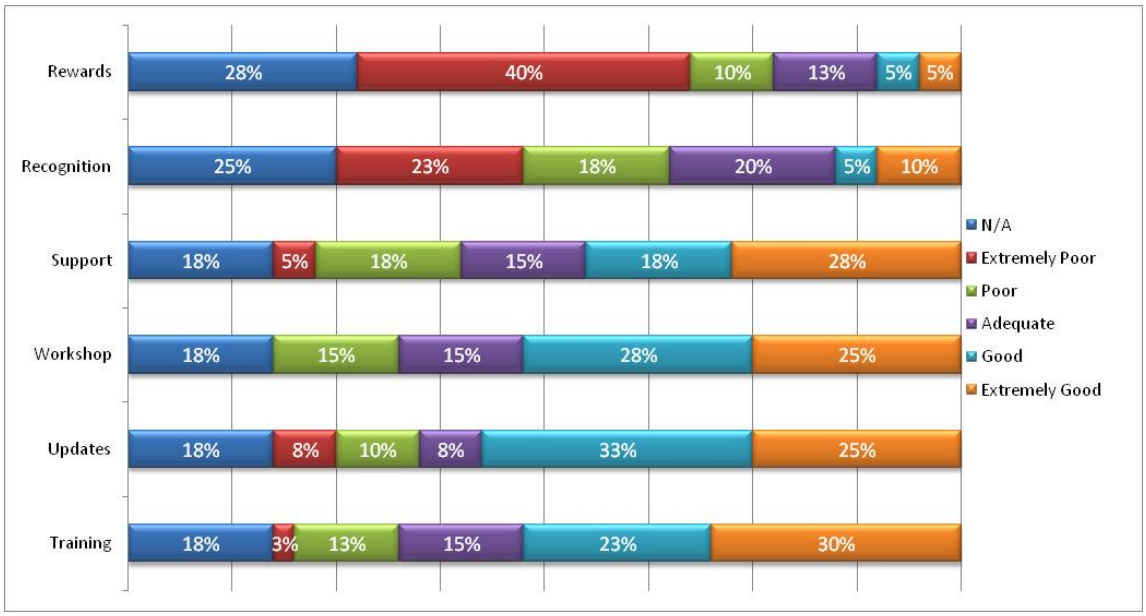


Interestingly 27.5% of respondents did not know the extent of their organisations' E-Learning strategy even though the respondent had identified the organisation as an E-Learning user.

4.3.4 E-Learning support provided by the organisation

Respondents were asked to rate the E-Learning support they received from their organisation on a scale of 1 to 5, 1 being extremely poor up to 5, extremely good. A list of support functions was provided such as training, workshops, rewards etc. E-Learning support in the form of rewards and recognition received a poor rating. The average rating for rewards was 1, extremely poor and for recognition, 2.5 poor. However the average rating for all other levels of support were in the adequate category, averaging between 3.5 and 3.8 on the likert scale.

Figure 4.8 E-Learning support provided by the organisation



Note: Figures have been rounded to the nearest percentage

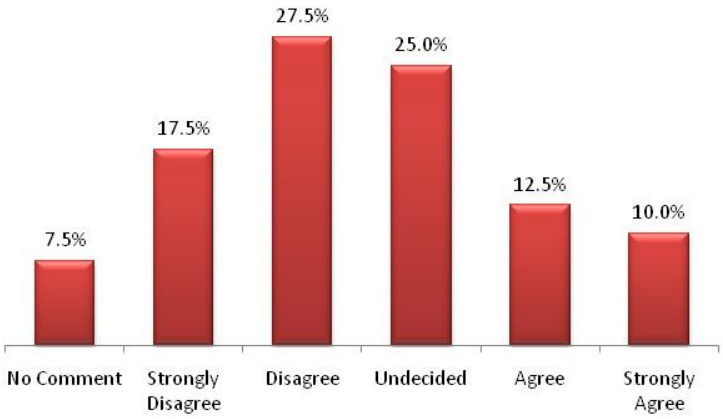
Interestingly those respondents who marked 'non applicable' include the two non-users and only one future user. On analysis of the data it became clear that one of the future-user respondents had actually rated the E-Learning support received by the organisation. However the non-applicable category also accounts for some users. For instance 10% of respondents who use E-Learning gave a non-applicable rating to training, updates, workshops and support. This was also reflected in the rewards and recognition categories with 20% and 17.5% of respondents indicating non applicable even though their organisations are E-Learning users. This information suggests that these categories of support do not exist in some organisations.

4.3.5 E-Learning within curriculum

Lecturers' perceptions of E-Learning as an integral part of a student's curriculum were explored. As presented in figure 4.9,

respondents were asked to rate the statement: E-Learning is an integral part of a student's curriculum. The scale went from 1, strongly disagree to 5, strongly agree.

Figure 4.9 E-Learning within curriculum



Nearly 23% of respondents agreed with this statement at some level while 25% remained undecided. The remaining majority were divided amongst 'disagreement', representing 45% of respondents, and 'no comment', which accounted for the remaining 7.5%.

On closer inspection the researcher noted that there was a correlation between the support provided by the organisation and E-Learning being an integral part of a student's curriculum within the organisation. The average rating for E-Learning support increased in line with the rating of the statement. For example the respondents who strongly disagreed with this statement gave an average rating of E-Learning support received from the organisation as 2.2, (2 being rated as poor) this average increased to 2.72 among those respondents who disagreed with the statement. Similarly the average rating for support increased

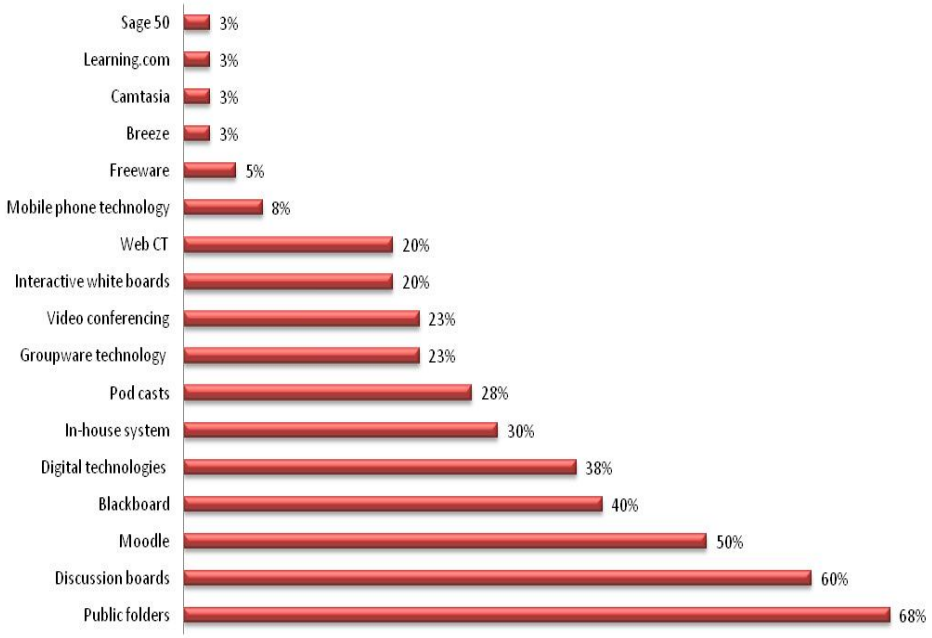
to 3.62 (3 being adequate and 4 being good), 3.7 and 4.08 in line with respondents being undecided, agreeing and strongly agreeing with this statement.

4.4 AVAILABILITY OF E-LEARNING TECHNOLOGIES

4.4.1 Technologies available to support learning

The research confirmed that public folders are the most available technology, accessible in 68% of organisations. Discussion boards exist in 60% of organisations and digital technologies in 38%. Podcasts and videoconferencing are also available but to a lesser extent.

Figure 4.10 Technologies available in the organisation



Note: Figures have been rounded to the nearest percentage

The most widely available VLEs are Moodle, existing in 50% of organisations and Blackboard, which is in 40% of organisations. 30% percent of organisations have in-house systems.

Comparisons with research into third level usage are provided in chapter 5.

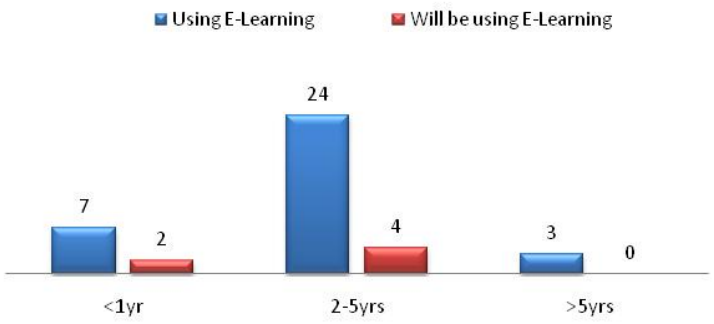
Further analysis of the data identified that 97.5% of organisations have a VLE such as Moodle, Blackboard, Web CT and Freeware or an in-house system. However the data also revealed that 40% of organisations have more than two VLEs and of the 30% of organisations that have in-house systems 27.5% of these also have a VLE.

4.5 USAGE, APPLICATION AND TYPE OF E-LEARNING TECHNOLOGIES APPLIED AT LECTURER LEVEL

4.5.1 E-Learning usage by lecturers

Thirty-four respondents equating to 85% of the sample are E-Learning users. The remaining 6 respondents are in the future user category. When comparing E-Learning usage within the organisation with that of lecturers' usage, the result is lower by 5% or 2 respondents. However these respondents have indicated that they intend to use E-Learning in the future.

Figure 4.11 Usage of E-Learning by lecturers



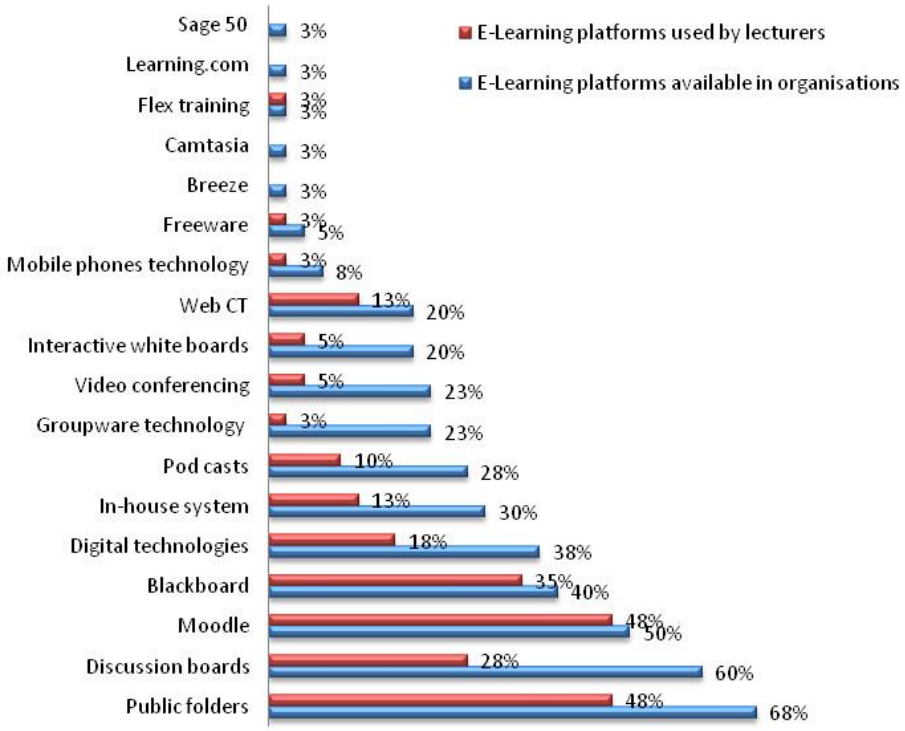
Further analysis of the data uncovered no correlation existing between age and usage of E-Learning. In fact lecturers over 60 identified themselves as using E-Learning for over 2 years while the average age of future users is 43.

Interestingly all future users are men. In other words 32% of male respondents do not use E-learning but 100% of female respondents do!

4.5.2 E-Learning platforms in accountancy programmes

As illustrated in figure 4.12 there is a clear difference between the availability and usage of technologies. As already discussed public folders are the most available technology, available in 68% of respondents' organisations, yet they are only used by 48% of lecturers. This trend continues, for example, discussion boards are available in 60% of organisations and only used by 28% of lecturers. Similarly digital technologies and video conferencing are only utilised by 18% and 5% of lecturers in comparison to their availability of 38% and 23% respectively.

Figure 4.12 E-Learning platforms in accountancy programmes



Note: Figures have been rounded to the nearest percentage

The number of respondents using VLEs is also lower than VLE availability however the difference is not as significant. Moodle is

used by 48% of respondents and available to 50% of respondents. Blackboard is used by 35% of lecturers but available to 40% of respondents. In house systems show a larger gap with usage at 13% compared to availability of 30%. It is important to note however that 85% of respondents use one or more VLEs in their accounting programmes yet VLEs are available to 97.5% of respondents.

The 12.5% disparity includes 7.5% of respondents who intend to use E-Learning in the future. The remaining 5% of respondents who do not use a VLE indicated that they use public folders.

Although 15% of respondents indicated that they are future E-Learning users confusingly 7.5% of them indicated that they use technologies of some description and 5% indicated that they use a VLE.

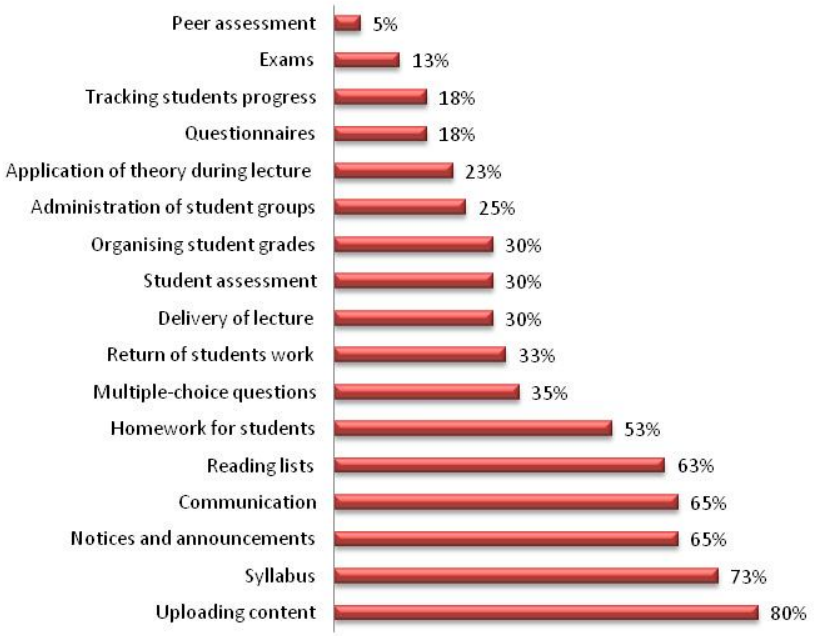
On further inspection of the data there is no correlation between the length of time E-Learning has been used by the lecturer and the type of platforms or number of platforms used in their programmes.

4.5.3 Teaching aspects of E-Learning platforms

E-Learning is used by lecturers in many aspects of their teaching. Figure 4.13 reflects the percentage of respondents who use E-Learning for various elements of their accountancy programme. Respondents had the option of including any additional aspect of teaching where E-Learning was used but none was added. Five percent of respondents indicated that they do not use any form of

E-Learning platform in their teaching. These respondents belonged to the category of future users.

Figure 4.13 Aspects of teaching where E-Learning platforms are employed



Note: Figures have been rounded to the nearest percentage

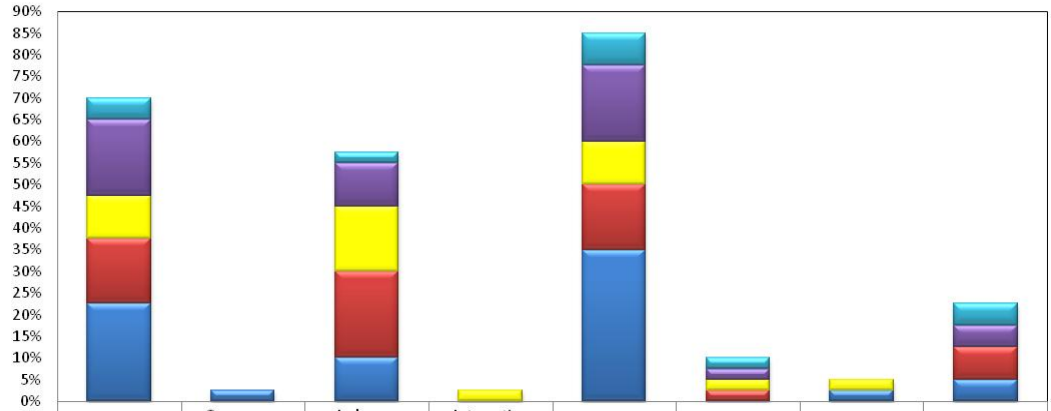
The majority of respondents, 95%, use E-Learning platforms for a variety of reasons. Eighty percent of respondents use technologies for uploading course content and 73% for uploading the course syllabus. Sixty five percent of respondents use an E-Learning platform for communication and for the delivery of notices and announcements. These platforms were also used by 53% of respondents as a tool to provide homework for students. Thirty five percent of respondents indicated that they use E-Learning technologies to test their students through the use of multiple-choice questionnaires and 30% as a form of student assessment.

However, only 30% of respondents use E-Learning to deliver a lecture and 23% to apply theory during a lecture. Administration functions such as tracking student progress, administration of student groups and organising student grades received low percentages of usage, represented by 30% or below.

4.5.4 Reasons why E-Learning platforms are used

Figure 4.14 presents the reasons why lecturers use the particular computer packages and systems as identified in figure 4.14, to support learning in their accountancy programmes. Although respondents were asked to choose their reasons from a standard list they also had the option of supplementing the list with additional reasons. No other reasons were offered.

Figure 4.14 Reasons why E-Learning platforms are used



	Blackboard	Groupware technology	In-house system	Interactive board	Moodle	MS Excel	SAGE 50	Web CT
Student preference	5%	0%	3%	0%	8%	3%	0%	5%
Easy to use	18%	0%	10%	0%	18%	3%	0%	5%
Suited to accountancy	10%	0%	15%	3%	10%	3%	3%	0%
Lecturer's preference	15%	0%	20%	0%	15%	3%	0%	8%
College policy	23%	3%	10%	0%	35%	0%	3%	5%

Note: Figures have been rounded to the nearest percentage

The research identified Moodle to be the most popular E-Learning platform being used by 48% of respondents. Thirty five percent of respondents indicated that they use Moodle, as it is college policy, 18% indicated that it is easy to use and 15% of respondents specified it is the lecturers' preferred platform. Again 10% of respondents agreed that it was suited to accountancy and 8% that it is student preference.

Blackboard is the second most popular E-Learning platform, used by 35% of lecturers. The research identified that 23% of respondents use Blackboard as it is college policy to do so and 15% of respondents use it, as it is the lecturers' preference. Eighteen percent of respondents use it, as it is easy to use. Ten percent of respondents use Blackboard, as it is suited to accountancy while 5% of respondents indicated that students prefer it.

In-house systems and Web CT are the third most popular E-Learning platforms each used by 13% of respondents. Twenty percent of respondents said they used an in-house system as it was the lecturer's preference and 15% agreed that it is suited to accountancy. Ten percent of respondents said that it was both college policy and easy to use while only 3% said it was students' preference.

The reasons indicated for using Web CT were fewer with only 5% of respondents citing student preference, ease of use and college policy. However 8% of respondents indicated that it was

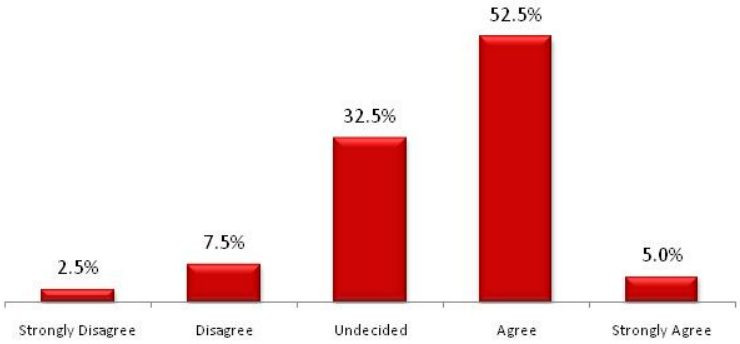
lecturers' preference and no respondents indicated that it is suited to accountancy.

Figure 4.14 also illustrates that a smaller percentage of respondents use E-Learning platforms such as Groupware technology, interactive board, MS Excel and Sage.

4.5.5 Learning styles and course design/delivery

Respondents were asked to rate the statement: learning styles are taken into account when designing courses and course delivery. The majority of respondents agreed with this statement, reflected by 53% of lecturers agreeing and 5% strongly agreeing that learning styles are taken into account when designing courses and course delivery. However 33% of the sample 80population remain undecided while 10% either disagreed or strongly disagreed with the statement. The average level of agreement is 3.5 indicating that respondents in general are undecided about this statement.

Figure 4.15 Learning styles & course design/delivery



4.5.6 Importance of E-Learning in accounting courses

Respondents were asked to rate the statement: E-Learning is currently an integral part of a student's accounting course.
As illustrated in figure 4.18, 43% of respondents agreed with the statement and 5% strongly agreed. However 40% of respondents disagreed at some level with this statement and 12.5% remained undecided.

Table 4.1 displays the differences in the levels of agreement among lecturers when considering whether E-Learning to be an integral part of a student's curriculum in the organisation, as discussed in 4.3.5, or in the accounting course.

Table 4.1 Importance of E-Learning

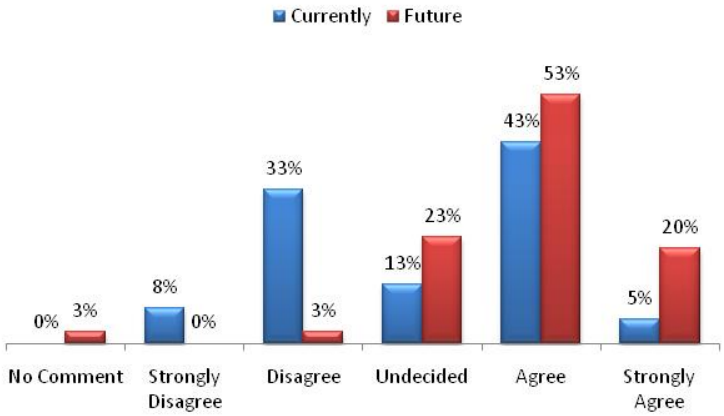
	No Comment	Strongly disagree	Disagree	Undecided	Agree	Strongly Agree	Totals
Organisation	8%	18%	28%	25%	13%	10%	100%
Accounting course	0%	8%	33%	13%	43%	5%	100%

Forty eighty percent of lecturers agree to some extent that E-Learning is an integral part of a student's accounting course whereas only 23% agree that it is an integral part of a student's curriculum in the organisation. This suggests that lecturers consider E-Learning to be more essential to accounting courses than to the organisation in general.

Lecturers were asked to consider whether E-Learning would be an integral part of accounting courses in the future. Seventy three percent of respondents agree or strongly agree with this statement. Compared to the previous statement that looked at E-

Learning within current accounting courses, the level of agreement has increased by 25% as illustrated by figure 4.16. This indicates that lecturers believe that E-Learning will play a more central role in accounting courses in the future.

Figure 4.16 Importance of E-Learning in accounting courses

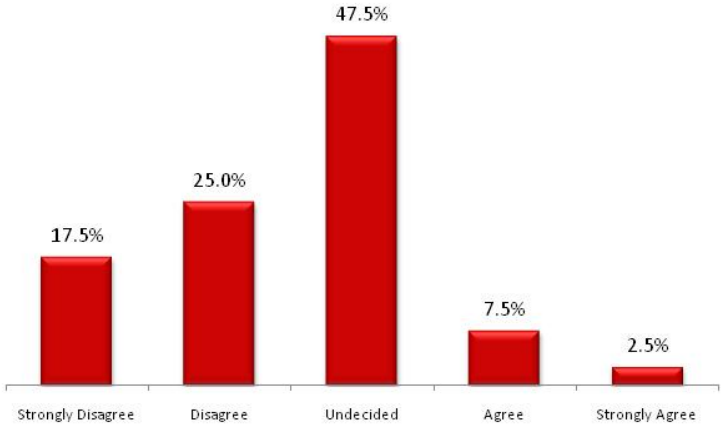


Note: Figures have been rounded to the nearest percentage

4.5.7 E-Learning: student's preference or college initiative

Lecturers were asked to rate the statement: E-Learning is more a student's preference rather than a college's initiative. Forty three percent of respondents disagreed to some level with this statement meaning that they believed it to be more of a college's initiative. However 11% of respondents agreed or strongly agreed.

Figure 4.17 E-Learning: student preference V college initiative



Forty eight percent of respondents were undecided as to whether E-Learning was a student's preference rather than a college's initiative. This is quite interesting because if the adoption of E-Learning was a college's initiative, students would have to learn through E-Learning on part or some of their courses. However if the use of E-learning was a student's preference that would imply that a choice exists in that students can learn through the use of books or through the use of E-Learning.

4.6 IMPLEMENTATION OF E-LEARNING

4.6.1 Factors affecting E-Learning implementation

As presented in figure 4.18 respondents were asked to rate the relevance of a list of factors that relate to the successful implementation of E-Learning. The majority of respondents consider time to be very relevant when implementing E-Learning on their accountancy course. Forty three percent of respondents consider it to be extremely relevant and 33% fairly relevant.

Figure 4.18 Factors affecting E-Learning implementation

Note: Figures have been rounded to the nearest percentage

Matching E-Learning with teaching and learning is also considered to be very relevant when implementing an E-Learning strategy. Twenty five percent of respondents indicated that matching E-

Learning with teaching and learning was extremely relevant and a further 43% of respondents believe it to be fairly relevant.

The research also identified course content as being very relevant to the success of E-Learning implementation on accountancy courses. This was demonstrated by 53% of respondents indicating that course content was fairly relevant and 15% of respondents indicating that it was extremely relevant.

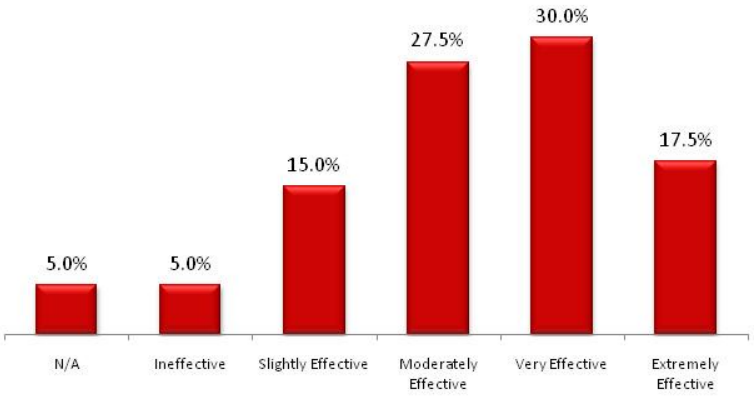
Course structure, nature of the course and institutional support were also considered to be relevant factors with 63% of respondents indicating these factors to be fairly or extremely relevant. Twenty percent of respondents viewed 'required skill and knowledge' to be extremely relevant while 33% of respondents thought it to be fairly relevant. Faculty support was also considered relevant to the successful implementation of E-Learning with 18% of respondents agreeing that it is extremely relevant and 33% agreeing that it is fairly relevant.

However less relevant factors affecting the successful implementation of E-Learning were considered to be student support, course development and evaluation and assessment. On average 16% of respondents did not rate the factors suggesting that they do not know what the success factors are. A respondent included an additional factor as being extremely relevant, that being, that E-Learning may not have the required course content available and therefore results in the failure of E-Learning implementation.

4.6.2 Success of E-Learning Implementation

Lecturers were asked to rate how successful the implementation of E-Learning has been in their organisation. The scale was from 1, extremely ineffective to 5, extremely effective.

Figure 4.19 Success of E-Learning implementation



Eighteen percent of respondents rated the implementation of E-Learning in their organisation as extremely effective and an additional 30% as very effective. Twenty eight percent of respondents rated the implementation as moderately effective. The remaining 20% comprises of respondents who rated the implementation as only slightly effective and ineffective and 5% of respondents indicated that the statement was not applicable to their organisation.

On further analysis of the data, no correlation exists between the success of implementation in the organisation or the E-Learning strategy adopted within the organisation. A trend is also not evident when comparing years of E-Learning usage, support available or technologies available.

4.6.3 Student's reaction and feedback

Lecturers were asked to rate their students' reaction and feedback to using E-Learning technologies in their accountancy modules. The rating scale was from 1 to 5, with 1 being extremely negative to 5 being extremely positive.

Figure 4.20 Student's reaction and feedback

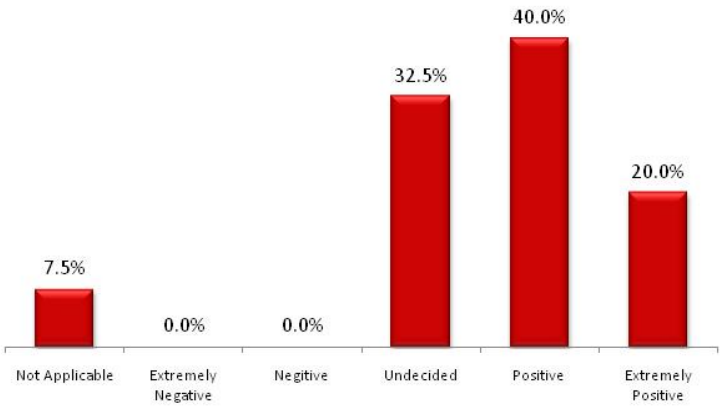


Figure 4.20 displays lecturer's perceptions of the reaction of students to using E-Learning in their accountancy programmes. Three fifths of respondents indicated that they perceived students' reactions to be positive/extremely positive.

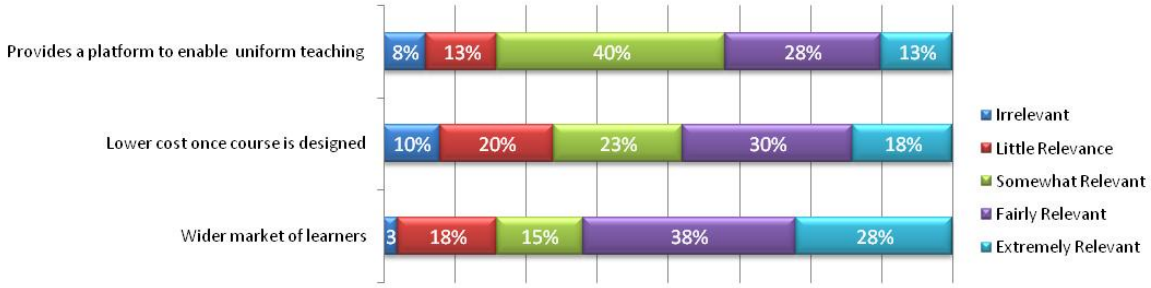
4.7 BENEFITS AND CHALLENGES OF E-LEARNING

Lecturers were asked to rate on a scale of 1 to 5 whether they believed benefits and challenges were relevant to the organisation, the lecturer, the student and in general. The respondents were also given the choice to include additional benefits and challenges if they wished.

4.7.1 Organisational benefits of E-Learning

Forty one percent of respondents considered E-Learning to provide a platform to enable uniform teaching, indicating extremely or fairly relevant. Forty percent of respondents said that it was somewhat relevant and the remaining 21% believed it to hold little relevance.

Figure 4.21 Organisational benefits of E-Learning



Note: Figures have been rounded to the nearest percentage

The second benefit to the organisation, the cost of course delivery is lower once the E-Learning course is designed, received a higher percentage of relevance with 48% of respondents agreeing that it was fairly or extremely relevant. Twenty three percent of respondents believed it to be somewhat relevant and the remaining 30% of respondents believed it to be of little relevance.

The final benefit to the organisation, that E-Learning increases access to wider markets, received the highest percentage of relevance when compared to the other benefits. Sixty six percent of respondents considered the benefit to be fairly or extremely relevant. This could suggest that lecturers believe E-Learning to

be more advantageous to distance learning rather than in-house delivered courses.

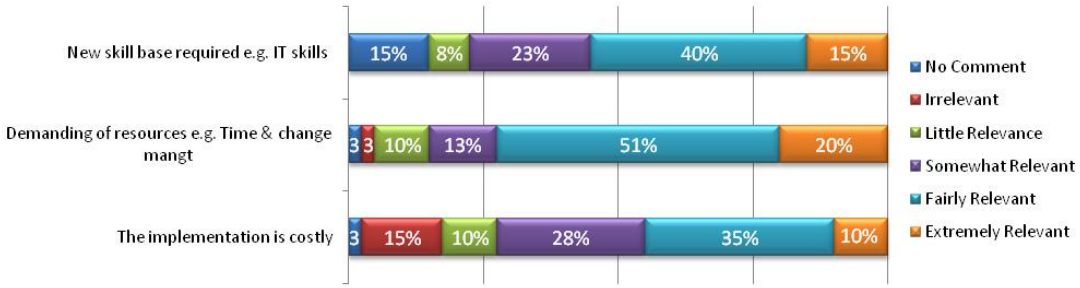
Respondents suggested additional benefits such as improving the lecturing process and achieving better learning outcomes.

4.7.2 Organisational challenges of E-Learning

Over half of respondents considered the new skill base required by organisations for E-Learning as challenging i.e. 55% of respondents indicated that this was fairly to extremely relevant.

The greatest organisational challenge perceived by respondents relates to the resourcing implications of E-Learning. Seventy one percent of lecturers agreed with this statement that E-Learning is demanding of resources, scoring it fairly or extremely relevant, while 13% indicated it to be somewhat relevant.

Figure 4.22 Organisational challenges of E-Learning



Note: Figures have been rounded to the nearest percentage

The final disadvantage relating to cost of implementing an E-Learning system was rated as either fairly or extremely relevant by 45% of respondents. Twenty eight percent of respondents

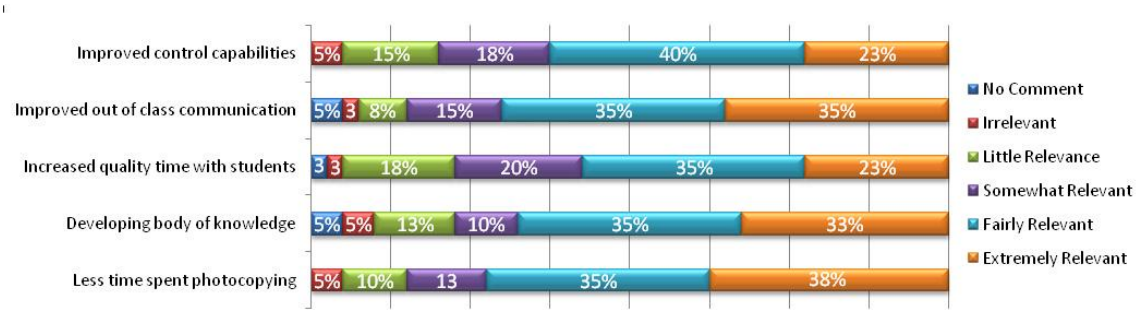
indicated that it was somewhat relevant and 25% indicated that it was of little to no relevance.

Additional comments offered by respondents include: the costs incurred by the standardisation of teaching warranted by E-Learning and problems associated with class attendance and student participation.

4.7.3 Lecturers' benefits of E-Learning

As presented in figure 4.23, the majority of respondents indicated that the benefits were fairly to extremely relevant with 58% of respondents agreeing that E-Learning resulted in the lecturer spending more quality time with students and 73% indicating that E-Learning resulted in the lecturer spending less time photocopying. However one responded added that 'digitised materials are still typically photocopied and distributed'.

Figure 4.23 Lecturers' benefits of E-Learning



Note: Figures have been rounded to the nearest percentage

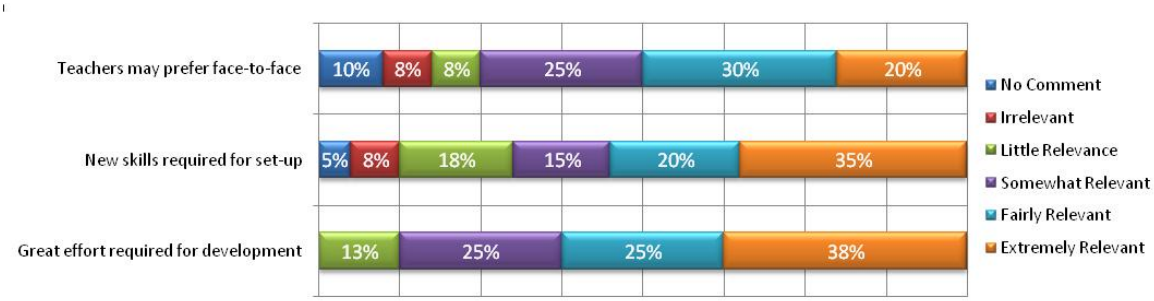
The majority of respondents also placed fair to extreme relevance on the remaining benefits including improved capabilities for tracking and analysing students' efforts, the development of a

body of knowledge and improved out of class communication. An additional benefit included by a respondent is that E-Learning focuses thinking on learning.

4.7.4 Lecturers' challenges of E-Learning

The majority of lecturers considered the challenges of E-Learning to be extremely or fairly relevant. These challenges include that lecturers may prefer teaching and communicating face to face and in particular, great effort and new skills are required for setting up an E-Learning programme.

Figure 4.24 Lecturers' challenges regarding E-Learning

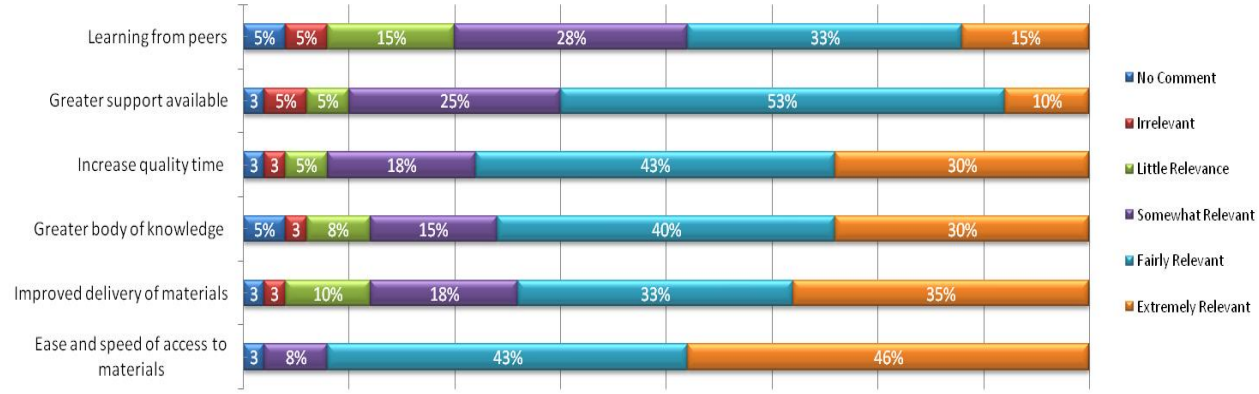


Note: Figures have been rounded to the nearest percentage

Additional challenges include lectures becoming technology rather than learning focused and the challenge already identified, involving lower attendance at lectures as students assume all material is online.

4.7.5 Student benefits of E-Learning

Figure 4.25 Student benefits of E-Learning



Note: Figures have been rounded to the nearest percentage

Lecturers were asked to identify the most relevant benefits of E-Learning for students. The highest scoring benefit related to the ease and speed of access materials, scoring 43% and 46% for 'fairly relevant' and 'extremely relevant' respectively.

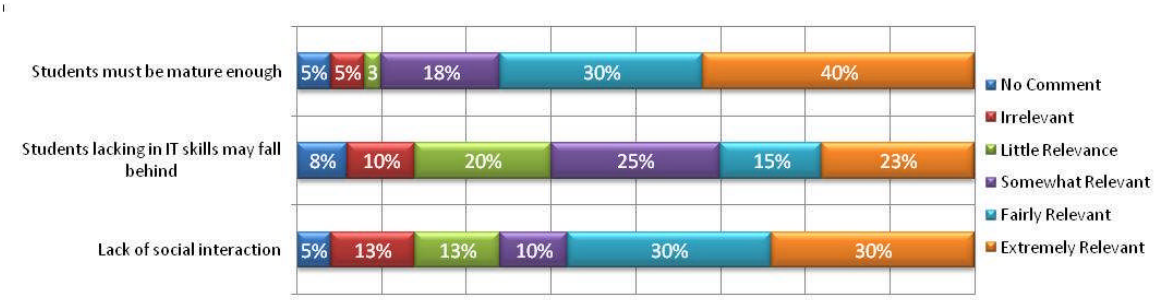
Other benefits achieving a high percentage of relevance among respondents were 'greater support available to students', with 63% and 73% of respondents agreeing to some degree that E-Learning increases quality time at lectures as note taking is minimised and 70% agreeing that the students have a greater body of knowledge available to them.

Forty eight percent of respondents believed that 'learning from peers' was a fairly to extremely relevant benefit for students. Twenty eight percent of respondents considered it to be somewhat relevant and the remaining respondents were divided between little or no relevance to no comment.

4.7.6 Student challenges regarding E-Learning

Seventy percent of respondents considered the maturity of students to be a challenge when using E-Learning. Thirty eight percent of respondents considered the lack of IT skills among students to be relevant, while 30% considered it to be of little relevance and 25% somewhat relevant.

Figure 4.26 Student challenges regarding E-Learning



Note: Figures have been rounded to the nearest percentage

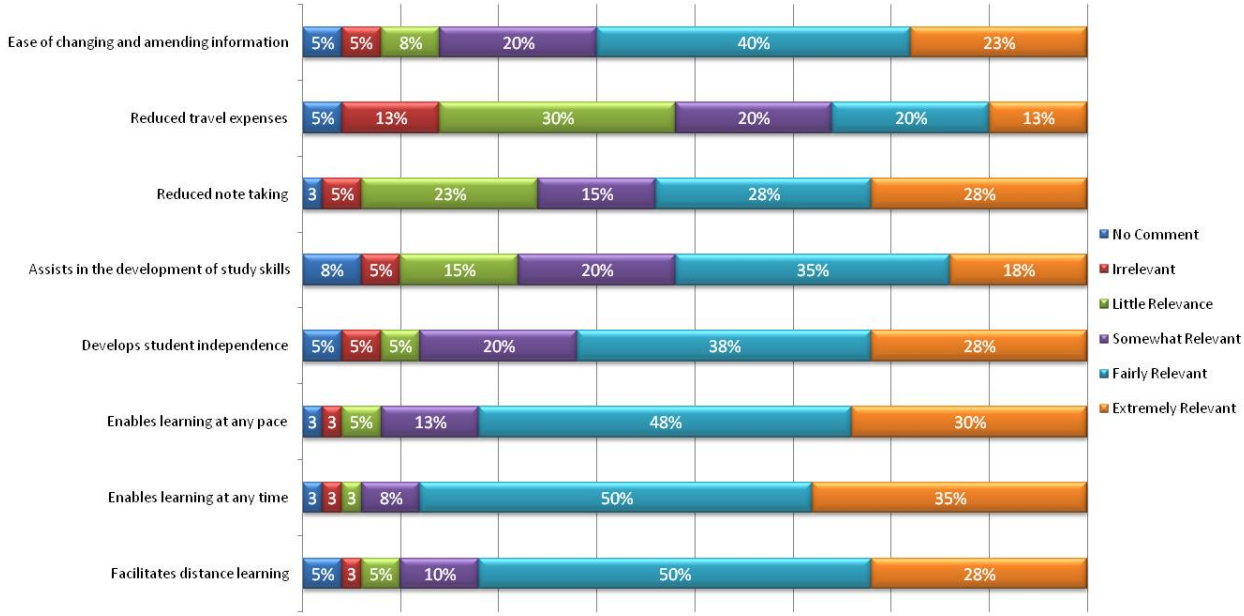
The lack of social interaction caused by E-Learning was considered by 60% of respondents to be fairly to extremely relevant with 10% of respondents indicating that it is somewhat relevant. A respondent added that the biggest challenge to the student is that E-Learning ignores the importance of the lecture, possibly meaning the lack of face to face interaction which permits discussion, questioning and demonstration.

4.7.7 Overall benefits of E-Learning

As discussed in chapter 2, there are many interlinked benefits associated with E-Learning. In this study, the most 'relevant' benefit of E-Learning identified by over four fifths of lecturers surveyed relates to how it 'enables learning at any time'. A

closely related benefit identified by respondents is that E-Learning 'enables learning at any pace'. It's facilitation of distance learning was also highlighted by respondents.

Figure 4.27 Overall benefits of E-Learning



Note: Figures have been rounded to the nearest percentage

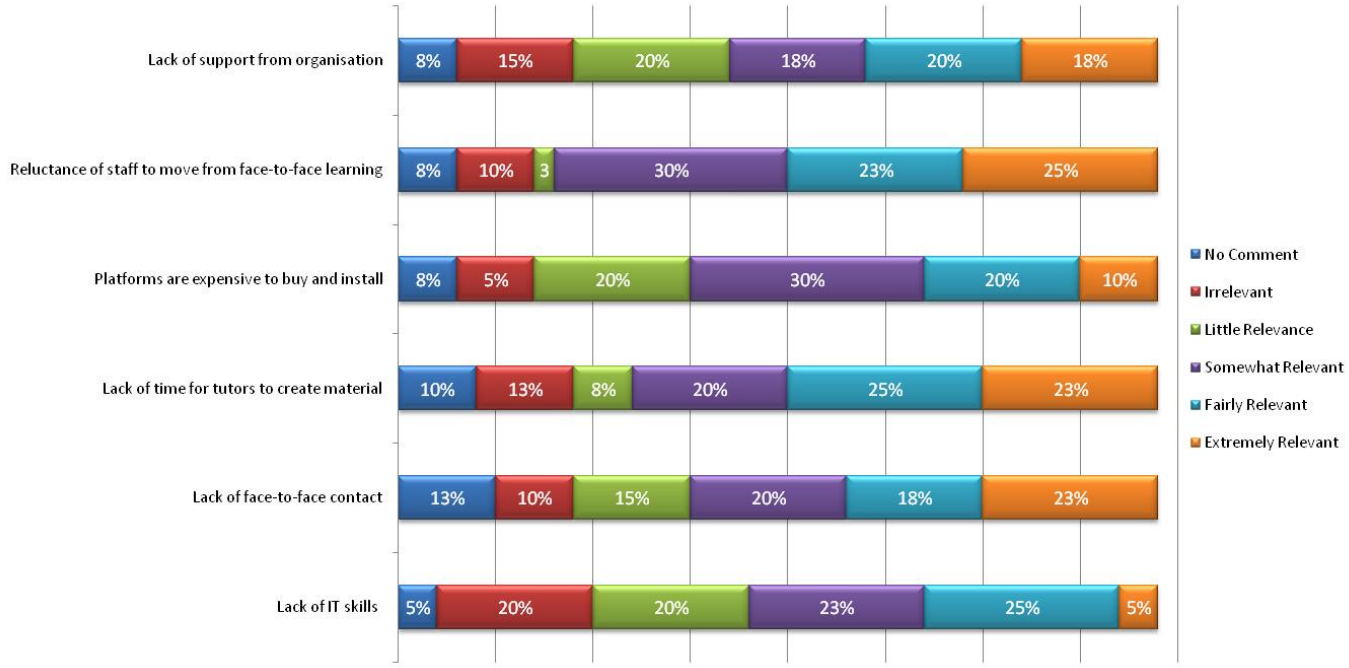
4.7.8 Overall challenges of E-Learning

Respondents were probed regarding the overall challenges they associated with E-Learning. Not one of the challenges identified received a majority weighting of agreement or disagreement. The greatest challenge identified related to the reluctance of staff to move from fact-to-face teaching.

The data in section 4.7 was analysed further to see if a trend existed that would differentiate the perceptions of non users and users. The average calculated for each category of benefits and

challenges was within the same category of relevance for both users and non E-Learning users.

Figure 4.28 Overall challenges of E-Learning



Note: Figures have been rounded to the nearest percentage

4.8 CONCLUSION

The analysis and findings have identified that 90% of respondent's organisations use E-Learning. The technologies available to lecturers and applied by lecturers have also been established, the reasons for using these technologies have been documented and the benefits and challenges perceived by lecturers have been analysed. Chapter 5 will summarise the research findings and make recommendations based on this information.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

In this chapter the researcher will summarise the main findings of the research and outline possible areas for further research.

This study sought to explore the nature and extent of E-Learning adoption by accounting lecturers in institutes of technology and universities in Ireland.

The aims of the research were as follows:

3. Determine the nature and extent to which E-Learning forms part of accounting teaching practices in Institutes of Technology and Universities in Ireland.
4. Establish the benefits and challenges experienced by accounting lecturers when using E-Learning.

The aims were broken down into four objectives which will be addressed in the main findings.

5.2 OVERVIEW OF THE MAIN FINDINGS

5.2.1 Organisational Approaches to E-Learning

The first objective required an investigation into the usage and commitment to E-Learning on an organisational level with regards

to E-Learning support provided and E-Learning applications available to the lecturers.

The research revealed that 90% of respondent's organisations use E-Learning while an additional 5% intend to use E-Learning in the future.

The predominant factors that motivated organisations to adopt an E-Learning strategy were college policy and competition in the market. This is consistent with OECD (2005) findings which reported that universities adopted an E-Learning strategy to improve on-campus courses and ultimately increase their competitiveness in the market.

Over half of the organisations have at least an E-Learning committee, E-Learning department or support group in place. Bixler and Spotts (2000) identified faculty support and commitment as a necessary ingredient for the successful implementation of E-Learning. However in this study, 30% of respondents were unsure as to the extent of the E-learning strategy within their organisation. This suggests that it may not have been effectively communicated or supported by the organisation.

Leacock (2005) highlighted the importance of an environment where employees learn from courses, from their own experiences and from each other. In this study, E-Learning support provided by organisations received mixed ratings. At least 10% of respondents did not receive any form of E-Learning support from

their organisation and support in the form of rewards and recognition was poor. Other support categories such as training, support, workshops and updates received only an adequate rating.

According to the majority of those surveyed, E-Learning is not an integral part of a student's curriculum in their organisation. Interestingly those respondents who agreed that E-Learning was an integral part of the organisation rated the support received from their organisation more positively than those who disagreed with the statement.

As expected, technologies to support learning are available in all organisations. Although the OECD and the JISC reported Blackboard and Web CT to be the most widely used VLEs in 13 countries including the UK and US, this research study has identified Blackboard and Moodle to be the most widely used VLEs in third levels in Ireland. Aside from VLEs, the most available technologies identified include public folders and discussion boards. The research identified possible duplication of software in the form of two or three VLEs being used in some organisations and an in-house system being used in conjunction with one or more VLEs. The OECD report also identified duplication of infrastructure and suggested that undue emphasis was being placed on infrastructure rather than on the effective use of technologies.

5.2.2 Usage of E-Learning

The second research objective required an examination of the use of E-Learning from the lecturer's perspective. This involved determining how long lecturers have been using E-Learning, what applications do they use to support learning and what aspects of teaching they use the applications for.

The research identified that 85% of respondents use E-Learning while the remaining 15% intend to be using in the future. VLEs are used by 85% of respondents with Moodle and Blackboard being the most popular. Obviously the availability of E-Learning platforms is greater than the usage. However VLE availability and usage showed less of a disparity in usage when compared to other E-Learning platforms. Other technologies used by lecturers include public folders, discussion boards and digital technologies.

The research identified that these technologies are used primarily as a result of college policy, lecturer's preference and ease of use. Only a small percentage of respondents indicated that they chose a VLE as it is best suited to teaching accountancy, in particular, Blackboard, in-house systems and Moodle.

E-Learning technologies are predominantly used for uploading content, syllabus, reading lists, notices and other forms of communication. However from a list of 17 standard ways in which E-Learning can be used to support teaching on average respondents only specified seven. Elements of teaching that received low percentages of usage include application of theory during lecture, administration of student groups and exams.

Ford and Chen (2000) consider learning styles one of the most important factors that influence E-Learning. However in this study, just over half of respondents agree that learning styles are taken into account when designing courses and course delivery. This suggests that with 85% of respondents using E-Learning perhaps learning styles should be given more consideration when applying technology in accountancy courses.

5.2.3 E-Learning implementation on accountancy programmes

The third research objective focused on identifying the factors affecting the successful implementation of E-Learning on accountancy programmes, how successful the implementation of E-Learning has been in the organisation and what kind of feedback has been received from students**.**

The respondents indicated that they consider time to be the most crucial factor when implementing E-Learning on their accountancy courses. This was followed closely by course content and matching E-Learning with teaching and learning. Factors such as course structure, nature of course and institutional support also received agreement from the majority of respondents. However factors such as course development, evaluation and assessment and student support were considered to be less crucial. Although the research identified that there is no ready model or single clear path that will guarantee the successful implementation of E-Learning (Oliver and Dempster, 2003), Bixler and Spotts (2000) state that course development, evaluation and assessment and

student support are fundamental factors to the successful implementation of E-Learning.

Lecturers believe that the implementation of E-Learning has been moderately effective in their organisation and overall reaction from students has been positive.

5.2.4 Benefits and Challenges of E-Learning

The final objective sought to establish the benefits and challenges of E-Learning from the lecturer's perspective.

The research identified that lecturers believe the overriding benefit of E-Learning for the organisation is that it accesses a wider market of learners. This contradicts the OECD report which found that organisations do not adopt E-Learning to access wider markets but to improve the quality of learning.

The majority of lecturers agreed with the list of benefits pertaining to lecturers. Less time spent photocopying received the highest agreement percentage with improved out of class communication and developing body of knowledge in second and third place.

However the benefits of E-Learning for students, identified by over 70% of lecturers, involves E-Learning enabling the ease and speed of access to a large body of knowledge, resulting in students enjoying more quality time in the classroom.

Lecturers seemed more convinced of the challenges of E-Learning, demonstrated by the majority of respondents agreeing that the

requirement of new skills, such as IT skills and a demand on resources would prove challenging to the organisation. The costs of implementation were only considered to be 'somewhat relevant'.

Lecturers consider maturity and lack of social interaction to be the most relevant challenges concerning students.

5.3 STRENGTHS AND LIMITATIONS OF THE FINDINGS

Great effort was taken to achieve credible results within the constraints of the research project. The researcher was limited by the amount of Irish literature on E-Learning as it is a relatively new area of research. However completion of the research aims and objectives enabled the researcher to create a document that provides extensive evidence into the nature and extent of E-Learning adoption by accounting lecturers in Ireland.

A limitation of the findings relates to an issue that was addressed in the literature review, which involves the many definitions of E-Learning. Some lecturers understood E-Learning to be any form of electronic Learning while others associated it purely with distance learning. The researcher tried to overcome this confusion by identifying these anomalies in the findings.

5.4 OVERALL CONCLUSION

Although E-Learning is used by the majority of respondents in various aspects of their accountancy programmes, the full contribution of E-Learning will not be realised until organisations

strategically develop procedures and practices that encourage the use of E-Learning in a supported environment.

In addition by educating staff on how to use E-Learning platforms fully and efficiently the overall costs of E-Learning infrastructure could be reduced.

5.5 RECOMMENDATIONS

1. E-Learning

   While lecturers are in agreement that E-Learning will be an integral part of accounting courses in the future, they remain undecided as to whether it is a student's preference or a college's initiative. Furthermore 28% of respondents do not know the extent of their organisations E-Learning strategy. Therefore the E-Learning strategy must be executed at management level, communicated successfully to staff and possibly supported by a national framework. Lecturers must realise and accept their role relating to the application of E-Learning in the classroom.

2. Rewards and recognition

   Staff must be encouraged to recognise the value of E-Learning; this can be achieved through the use of rewards and recognition within the organisation.

3. Collaboration between organisations

   Collaborations between organisations could help institutions by sharing knowledge and best practices, resulting in benefits such as efficiently using technology, high quality course

material and lower costs. E.g. the National Digital Learning Repository (NDLR) in Ireland is funding people who will create new teaching resources to be uploaded and be available to all teaching staff within particular areas.

4. Learning styles

   As the literature has identified, learning styles is one of the most significant factors to influence E-Learning. In addition the research has revealed that over half of lecturers agree that they consider learning styles when designing courses, yet the majority of lecturers do not believe E-Learning to be an integral part of their accounting course currently. Therefore there exists a need to ensure E-Learning and learning styles are aligned. This can be achieved by encouraging management to maximise E-Learning by communicating the benefits of E-Learning effectively and providing adequate training and support to lecturers. The fact that E-Learning can encourage a deep approach to learning resulting in higher quality outcomes cannot be overlooked.

5. E-Learning Technologies

   Organisations must ensure E-Learning technologies available within the organisation are utilised fully and the unnecessary duplication of technological infrastructure is avoided. In the current economic environment there is a more pressing need to ensure resources are consumed efficiently and costs minimised.

5.6 FUTURE RESEARCH

As this research is essentially an exploratory study there are many areas that merit further research. Such as:

1. Research into best practice relating to staff training on E-Learning technologies.

2. Investigate E-Learning collaborations between organisations, the collaborations' aims versus the outcomes, the benefits and the challenges.

3. Explore the issues surrounding the use of intellectual property in E-Learning.

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APPENDIX 1

Covering Letter

Dear Sir/Madam,

I am a student on the MA in Accounting programme at Letterkenny Institute of Technology and am completing a thesis on the extent to which E-Learning has been adopted by accounting lecturers in Ireland.

I would really appreciate if you could spare 10 minutes and complete my questionnaire and email it back to me. I realise you are very busy at the moment but would value your input greatly.

Thank you,

Kathleen Mulvin.

All information contained in this questionnaire will be treated with the strictest confidence. Individual's names and organisations will not be divulged to others or included in my thesis. The information received will become part of collective analysed data from which conclusions will be derived.

APPENDIX 2

Questionnaire

An investigation into the extent E-Learning has been adopted by Accountancy Lecturers in Ireland. ***All information contained in this questionnaire will be treated with the strictest confidence*.**

SECTION 1: General

1. What type of organisation are you?

   Institute of Technology ☐ University ☐

2. Are you male or female? Male ☐ Female ☐

3. Please indicate what age group you are in?

   < 31 ☐ 31 – 40 ☐ 41 – 50 ☐ 51 – 60 ☐ > 60 ☐

4. Please indicate the course level you teach accounting at?

   Higher Certificate ☐
   Ordinary Degree ☐
   Honours Degree ☐
   Masters ☐
   Professional Accountancy Courses ☐
   Other please specify

5. Please indicate the accounting subjects you teach?

   Financial accounting ☐
   Management accounting ☐
   Cost accounting ☐
   Financial management ☐
   Book keeping ☐
   Business Finance ☐
   Other please specify

SECTION 2: Organisational Level

6. Please indicate the statement that applies to your organisation. (**Please tick only one).**

	<1yr	2-5yrs	>5yrs
My organisation is using E-Learning for	☐	☐	☐
My organisation will be using E-Learning in	☐	☐	☐

In this organisation we do not use E-Learning ☐

7. What motivated your organisation to adopt an E-Learning strategy? (**Please indicate as applicable**).

	User	Future User	Non User
College policy	☐	☐	
Student pressure	☐	☐	
Peer pressure	☐	☐	
Competition in market	☐	☐	
Professional Bodies Policy	☐	☐	
Don't know	☐	☐	
Not applicable			☐
Other			

8. To what extent does your organisation have an E-Learning plan or strategy in place? (**Please indicate as applicable**).

E-Learning committee within organisation	☐
E-Learning support department	☐
E-Learning peer support group	☐
E-Learning support officer	☐
Collaborating with external organisations on E-Learning projects	☐
Don't know	☐
Not applicable (non user)	☐

9. How would you rate the E-Learning support you receive from your organisation? (**Please select one number on each line only**. **1 = extremely poor up to 5 = extremely good**).

1	2	3	4	5	n/a

Training on packages and systems	☐	☐	☐	☐	☐	☐
E-Learning updates communicated Regularly	☐	☐	☐	☐	☐	☐
E-Learning workshops	☐	☐	☐	☐	☐	☐
E-Learning support team/officer	☐	☐	☐	☐	☐	☐
Acknowledgement for using E-Learning	☐	☐	☐	☐	☐	☐
Rewards for using E-Learning	☐	☐	☐	☐	☐	☐
Non User						☐

10. Please rate the following statement.
E-Learning is an integral part of a student's curriculum in this organisation. (**Please select one number on each line only: 1 = strongly disagree to 5 strongly agree**).

1	2	3	4	5
☐	☐	☐	☐	☐

SECTION 3: Technologies

11. Please indicate the technologies available to support learning in your organisation? (**Please indicate as applicable**).

Public folders	☐
Interactive white boards	☐
Digital technologies (audio, photography)	☐
Discussion boards	☐
Video conferencing	☐
Pod casts	☐
Mobile phone technology	☐
Packages and systems including:	
In-house system	☐
Groupware technology (outlook calendar, or a content management system)	☐
Moodle	☐
Web CT	☐
Blackboard	☐
Bodington	☐
Learning Space	☐
Freeware	☐
Learning.com	☐
Flex training	☐
LAMS	☐
Angel Learning	☐
Claroline	☐
efront	☐

Not applicable ☐
Other please specify

SECTION 4: Lecturer Level

12. Please indicate the statement that applies to you. (**Please tick only one**).

	<1yr	2-5yrs	>5yrs	
I have been using E-Learning for	☐	☐	☐	I
intend to be using E-Learning in	☐	☐	☐	
I will not be using E-Learning because				

13. Please identify the E-Learning platforms that you use to support learning in your accounting programmes? (**Please indicate where appropriate**).

Public folders ☐
Interactive white boards ☐
Digital technologies (audio, photography) ☐
Discussion boards ☐
Video conferencing ☐
Pod casts ☐
Mobile phones technology ☐
Packages and systems including:
In-house developed organisational system ☐
Personally developed system ☐
Groupware technology (outlook calendar, or a content management system) ☐
Moodle ☐
Web CT ☐
Blackboard ☐
Bodington ☐
Learning Space ☐
Freeware ☐
Learning.com ☐
Flex training ☐
LAMS ☐
Angel Learning ☐
Claroline ☐
efront ☐
Not applicable (non user) ☐
Other please specify

*14. What aspects of teaching do you use E-Learning platforms for? (**Please tick as appropriate**).*

Reading lists	☐
Notices and announcements	☐
Syllabus	☐
Communication	☐
Uploading content	☐
Delivery of lecture	☐
Application of theory during lecture e.g accountancy packages	☐
Homework for students	☐
Exams	☐
Peer assessment	☐
Student assessment	☐
Return of students' work	☐
Multiple-choice questions	☐
Administration of student groups	☐
Collecting and organising student grades	☐
Questionnaires	☐
Tracking students progress	☐
Not applicable (non user)	☐
Other please specify	

15. Why do you use the particular computer packages and systems as indicated above? (**Please tick the reasons where applicable**).

	College Policy	Own Preference	Suited to Accountancy	Easy to use	Student Preference
In-house system	☐	☐	☐	☐	☐
Groupware technology	☐	☐	☐	☐	☐
Moodle	☐	☐	☐	☐	☐
Web CT	☐	☐	☐	☐	☐
Blackboard	☐	☐	☐	☐	☐
Bodington	☐	☐	☐	☐	☐
Learning Space	☐	☐	☐	☐	☐
Freeware	☐	☐	☐	☐	☐
Learning.com	☐	☐	☐	☐	☐
Flex training	☐	☐	☐	☐	☐
LAMS	☐	☐	☐	☐	☐
Angel Learning	☐	☐	☐	☐	☐
Claroline	☐	☐	☐	☐	☐
efront	☐	☐	☐	☐	☐
Other	☐	☐	☐	☐	☐

Other ☐ ☐ ☐ ☐ ☐

16. Please rate the following statement. I take into account the various learning styles when designing courses and course delivery. (Please select one number on each line only: 1 = strongly disagree to 5 strongly agree).

	1	2	3	4	5
	☐	☐	☐	☐	☐

17. Please rate the following statement.
I believe that E-Learning is currently an integral part of a student's accounting course. (**Please select one number on each line only: 1 = strongly disagree to 5 strongly agree**).

	1	2	3	4	5
	☐	☐	☐	☐	☐

18. Please rate the following statement.
I believe that E-Learning will be an integral part of a student's accounting course in the future. (**Please select one number on each line only: 1 = strongly disagree to 5 strongly agree**).

	1	2	3	4	5	
		☐	☐	☐	☐	☐

19. Please rate the following statement.
E-Learning is more a student's preference rather than part of a college's initiative. (**Please select one number on each line only: 1 = strongly disagree to 5 strongly agree**).

	1	2	3	4	5
	☐	☐	☐	☐	☐

SECTION 5: Implementation of E-Learning

20. What are the factors affecting the successful implementation of E-Learning on your accountancy module? (**Please select one number on each line only: 1 = not at all relevant up to 5 very extremely relevant**).

	1	2	3	4	5
Institutional support	☐	☐	☐	☐	☐
Course development	☐	☐	☐	☐	☐

Matching E-Learning with teaching and learning	☐	☐	☐	☐	☐
Nature of course	☐	☐	☐	☐	☐
Course structure	☐	☐	☐	☐	☐
Course content	☐	☐	☐	☐	☐
Student support	☐	☐	☐	☐	☐
Faculty support	☐	☐	☐	☐	☐
Evaluation and assessment	☐	☐	☐	☐	☐
Required skill and knowledge	☐	☐	☐	☐	☐
Time	☐	☐	☐	☐	☐
Other please specify	☐	☐	☐	☐	☐

21. Please rate how successful the implementation of E-Learning has been in your organisation. (**Please select one number on each line only: 1 = not at all effective to 5 extremely effective**).

1	2	3	4	5		
☐	☐	☐	☐	☐	not applicable	☐

22. Please rate student reaction and feedback to using E-Learning technologies within your course. (**Please select one number on each line only: 1 = extremely negative up to 5 extremely positive**).

1	2	3	4	5		
☐	☐	☐	☐	☐	not applicable	☐

SECTION 6: Advantages and Disadvantages of E-Learning

23. Please indicate what you believe the advantages of E-learning are to the organisation? (**Please select one number on each line only: 1 = not at all relevant up to 5 extremely relevant**).

	1	2	3	4	5
Increase access to wider market of learners	☐	☐	☐	☐	☐
Cost of course delivery lower once course is designed	☐	☐	☐	☐	☐
Provides a platform to deliver a uniform teaching doctrine to students	☐	☐	☐	☐	☐
Other please specify	☐	☐	☐	☐	☐

24. Please indicate what you believe the disadvantages of E-learning are to the organisation? (**Please select one number on each line only: 1 = not at all relevant up to 5 extremely relevant**).

	1	2	3	4	5
The implementation of an E-Learning system is costly	☐	☐	☐	☐	☐
Learning curve costs such as time, change management and reorientation.	☐	☐	☐	☐	☐
New skill base needs to be generated, such as IT skills and learning	☐	☐	☐	☐	☐
Other please specify	☐	☐	☐	☐	☐

25. Please indicate what you believe the advantages of E-learning are to you, the lecturer? (**Please select one number on each line only: 1 = not at all relevant up to 5 extremely relevant**).

	1	2	3	4	5
Less time spent photocopying	☐	☐	☐	☐	☐
Developing body of knowledge that grows each year	☐	☐	☐	☐	☐
Increased quality time with students as less time spent on basic information	☐	☐	☐	☐	☐
Improved out of class communication	☐	☐	☐	☐	☐
Improved capabilities for tracking and analysing students efforts	☐	☐	☐	☐	☐
Other please specify	☐	☐	☐	☐	☐

26. Please indicate what you believe the disadvantages of E-learning are to you, the lecturer? (**Please select one number on each line only: 1 = not at all relevant up to 5 extremely relevant**).

	1	2	3	4	5
Great effort required for development	☐	☐	☐	☐	☐
New skills required for set-up	☐	☐	☐	☐	☐
Teachers may prefer face-to-face	☐	☐	☐	☐	☐
Other please specify	☐	☐	☐	☐	☐

27. Please indicate what you believe the advantages of E-learning are to the student? (**Please select one number on each line only: 1 = not at all relevant up to 5 extremely relevant**).

	1	2	3	4	5
Ease and speed of access to materials	☐	☐	☐	☐	☐
Improved delivery of materials and lecture notes	☐	☐	☐	☐	☐
Greater body of knowledge available	☐	☐	☐	☐	☐
Increase quality time as notes at Fingertips	☐	☐	☐	☐	☐
Greater support available	☐	☐	☐	☐	☐
Learning from peers and greater knowledge	☐	☐	☐	☐	☐
Other please specify	☐	☐	☐	☐	☐

28. Please indicate what you believe the disadvantages of E-learning are to the student? (**Please select one number on each line only: 1 = not at all relevant up to 5 extremely relevant**).

	1	2	3	4	5
Lack of social interaction	☐	☐	☐	☐	☐
Students lacking in IT skills may fall behind	☐	☐	☐	☐	☐
Students must be mature enough for Self service learning	☐	☐	☐	☐	☐
Other please specify	☐	☐	☐	☐	☐

29. Please indicate what you believe the advantages of E-learning to be? (**Please select one number on each line only: 1 = not at all relevant up to 5 extremely relevant**).

	1	2	3	4	5
Makes learning away from college easier	☐	☐	☐	☐	☐
Enables learning at any time	☐	☐	☐	☐	☐
Enables learning at individuals pace	☐	☐	☐	☐	☐
Develops student independence	☐	☐	☐	☐	☐
Assists in the development of study skills	☐	☐	☐	☐	☐
Reduced note taking results in greater efficiency in learning	☐	☐	☐	☐	☐
Reduced travel expenses results in greater efficiency in learning	☐	☐	☐	☐	☐
Ease of changing and amending information	☐	☐	☐	☐	☐

Other please specify	☐	☐	☐	☐	☐

30. Please indicate what you believe the disadvantages of E-learning to be? **(Please select one number on each line only: 1 = not at all relevant up to 5 extremely relevant**).

	1	2	3	4	5
Lack of IT skills is a major barrier	☐	☐	☐	☐	☐
Lack of face-to-face contact with student	☐	☐	☐	☐	☐
Lack of time for tutors to create material	☐	☐	☐	☐	☐
E-Learning platforms are expensive to buy and install	☐	☐	☐	☐	☐
Reluctance of staff to move from face-to-face to online learning	☐	☐	☐	☐	☐
Lack of support from organisation	☐	☐	☐	☐	☐
Other please specify	☐	☐	☐	☐	☐

Thank you for taking the time to complete this questionnaire.