The Motivational Potential of the use of Information and Communication Technology on Adult Learners within Adult Education Centres in the North West of Ireland.

A case study approach

Patricia Mc Laughlin

Master of Arts in Digital Media Development for Education

University of Limerick

Supervisor: Gerry Doyle

Submitted to the University of Limerick October 2010
Declaration

“I, Patricia Mc Laughlin hereby declare that this thesis is entirely my own work and that it has not been submitted for the award of any degree at any other university.”

Patricia Mc Laughlin
Student ID Number: 0710997

Submitted
October 2010
The Motivational Potential of the use of Information and Communication Technology on Adult Learners within Adult Education Centres in the North West of Ireland.

A case study approach

Patricia Mc Laughlin

Abstract

Motivation is an internal compulsion that incites an individual to act in a certain manner and the level of motivation experienced determines the course of their actions. Within an education setting the motivation of a learner may be influenced through their attitude towards a subject, the manner in which it is taught or their desire for recognition of academic achievement. With these factors in mind the purpose of this study was to determine the motivational potential of the use of Information and Communication Technology (ICT) on the adult learners when it is used within adult education in the North West of Ireland.

There have been a number of studies conducted relating to the motivation of learners through the use of ICT within primary and secondary education but there is little evidence on its influence on the motivation of adult learners within the adult education sector.

A case study approach was used for this study and the case study was conducted within three Adult Education Centres over an eight week time frame. The data collection tools utilised were questionnaires distributed to both teachers and learners to determine their outlook on ICT use within their classrooms; an observation checklist to ascertain the effect of ICT use on the motivational behaviour of learners within a classroom and; interviews with the co-ordinators of two Adult Education Centres were conducted to verify their opinion of how ICT use within their centres influences the motivation of adult learners.
The findings of the study show that the use of ICT has a significant potential to motivate adult learners through stimulation and by satisfying their learning needs to a greater extent than alternative learning techniques. This stimulation acts as an antecedent to the motivation which impels a learner to achieve academically. The motivation of learners through ICT was obvious through observation of the increased interest and confidence levels of learners.

The study suggests that educators within the Adult Education sector can improve the motivation of adult learners by providing all learners with access to ICT in order to promote intrinsic motivation through self actualisation of each learner.
Acknowledgements

I would like to express my gratitude and appreciation to a number of individuals who have helped and supported me in the completion of this study.

Firstly, I would like to offer my thanks to Mr Gerry Doyle for his advice and guidance throughout all phases of this thesis.

Secondly, I would like to thanks all the teachers, adult learners and co-ordinators within the Adult Education Sector in the North West of Ireland who took part in the research through completion of questionnaires, classroom observation and interview.

Last but by no means least, I would like to thank my husband Eamon for his support and encouragement and my children Simon, Ethan, Kelly, Enda and Eimear for their caring and patience throughout each phase of this Masters Degree.
Table of Contents

Chapter One .............................................................................................................1

Introduction .............................................................................................................1
1.1 Introduction .................................................................................................1
1.2 Statement of the topic. ................................................................................1
1.3 Objectives ....................................................................................................2
1.4 A case study of Adult Education Centres in Donegal .........................3
1.5 Understanding how ICT motivates Adult Learners .............................4
1.6 Significance of the study ...........................................................................5
1.7 Structure of the Thesis ..............................................................................5

Chapter Two ............................................................................................................7

The Motivational Potential of ICT on Adult Learners .......................................7
2.1 Introduction .................................................................................................7
2.2 Adult Learning ............................................................................................7
2.3 Motivation ....................................................................................................9
  2.3.1 Extrinsic Motivating Factors .................................................................9
  2.3.2 Intrinsic Motivating Factors .................................................................10
  2.3.3 Motivational Process ............................................................................12
2.4 Motivation and the Adult Learner .............................................................13
  2.4.1 Constructivism .....................................................................................14
2.5 Motivational Theories ................................................................................16
  2.5.1 Maslow’s Hierarchy of Needs ...............................................................16
  2.5.2 Herzberg Theory ................................................................................17
  2.5.3 Expectancy Theory ............................................................................18
  2.5.4 Adam’s Equity Theory .......................................................................19
  2.5.5 Motivation Theories in Education ......................................................20
2.6 Motivational Design Model ......................................................................21
  2.6.1 Keller’s ARCS Model of Motivation Design ........................................21
2.7 Motivation through the use of ICT ............................................................22
2.8 Experiential Learning ...............................................................................25
  2.8.1 Edgar Dale’s Cone of Experiential Learning .....................................25
  2.8.2 David A Kolb’s Experiential Learning Model ..................................26
2.9 ICT in Education .......................................................................................27
  2.9.1 Multiple Intelligences .........................................................................28
  2.9.2 Simulation ..........................................................................................29
  2.9.3 Building Communities .......................................................................29
  2.9.4 Interactivity ........................................................................................30
2.10 Conclusion .................................................................................................31

Chapter Three ........................................................................................................32

Research Methodology .........................................................................................32
3.1 Introduction .................................................................................................32
3.2 Research Questions .....................................................................................32
3.3 Research Methodology ..............................................................................33
3.4 Background of Research ............................................................................... 33
3.4.1 Selection of Adult Education Centres ......................................................... 35
3.4.2 Selection of Teachers .................................................................................. 36
3.5 Research Tools .............................................................................................. 37
3.5.1 Questionnaires .......................................................................................... 37
3.5.2 Interview .................................................................................................. 39
3.5.3 Observation ............................................................................................... 40
3.6 Analysis of Data ............................................................................................. 41

Chapter Four ........................................................................................................ 43

Research Findings .................................................................................................. 43
4.1 Introduction ..................................................................................................... 43
4.2 Findings by Research Question ....................................................................... 44
4.2.1 How do teachers use ICT in their teaching and learning activities? 44
  4.2.1.1 Teacher Questionnaire .......................................................................... 44
  4.2.1.2 Learner Questionnaire ........................................................................... 49
4.2.2 How does the use of ICT increase the motivation of adult learners? 50
  4.2.2.1 Teacher Questionnaire .......................................................................... 50
  4.2.2.2 Learner Questionnaire ........................................................................... 51
  4.2.2.3 Classroom Observation .......................................................................... 52
  4.2.2.4 Interview with co-ordinators ................................................................. 54
4.2.3 What are the motivating factors that facilitate learning through ICT in Adult Education? .................................................. 54
  4.2.3.1 Teacher Questionnaire .......................................................................... 54
  4.2.3.2 Learner Questionnaire ........................................................................... 56
  4.2.3.3 Classroom Observation .......................................................................... 56
  4.2.3.4 Interview with co-ordinators ................................................................. 57
4.2.4 How does the motivation of learners through ICT manifest itself? 57
  4.2.4.1 Teacher Questionnaire .......................................................................... 57
  4.2.4.2 Learner Questionnaire ........................................................................... 58
  4.2.4.3 Classroom Observation .......................................................................... 58
  4.2.4.4 Interview with co-ordinators ................................................................. 59

Chapter Five ........................................................................................................... 60

Discussion of Research Findings ......................................................................... 60
5.1 Introduction ..................................................................................................... 60
5.2 Discussion by Research Question ................................................................... 60
  5.2.1 How do teachers use ICT in their teaching and learning activities? 60
  5.2.2 How does the use of ICT increase the motivation of adult learners? 63
  5.2.3 What are the motivating factors that facilitate learning through ICT in Adult Education? .................................................. 66
  5.2.4 How does the motivation of learners through ICT manifest itself? 69
5.3 Summary of Answers to Research Questions .............................................. 71

Chapter Six ............................................................................................................ 73

Conclusion ............................................................................................................ 73
6.1 Introduction ..................................................................................................... 73
6.2 The use of ICT by teachers in Adult Education ........................................... 73
6.3 The effect of ICT use on the motivation of adult learners ..................... 74
6.4 The motivating factors that facilitate learning though ICT in Adult Education ................................................................. 75
6.5 The manifestation of the motivation of learners through ICT in Adult Education ........................................................................ 76
6.6 Recommendations arising from the research ........................................ 76
6.7 Limitations of the study .......................................................................... 77
6.8 Further Research .................................................................................... 77

Bibliography .................................................................................................. 79

Appendices
List of Appendices

Appendix A  Letter to the Adult Education Officer ............................................. 1
Appendix B  Letter to participating Teachers.................................................... 2
Appendix C  Letter to participating Adult Learners........................................... 3
Appendix D  Teacher Questionnaire................................................................... 4
Appendix E  Learner Questionnaire .................................................................. 11
Appendix F  Interview Questions....................................................................... 16
Appendix G  Interview Transcript A ................................................................. 17
Appendix H  Interview Transcript B ................................................................. 20
Appendix I  Observation Checklist ................................................................... 23
# List of Figures

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Motivational Process</td>
<td>12</td>
</tr>
<tr>
<td>2.2</td>
<td>Maslow’s Hierarchy of Needs</td>
<td>17</td>
</tr>
<tr>
<td>2.3</td>
<td>Herzberg’s Motivation/Hygiene Theory</td>
<td>18</td>
</tr>
<tr>
<td>2.4</td>
<td>Vroom’s Expectancy Theory</td>
<td>19</td>
</tr>
<tr>
<td>2.5</td>
<td>Cone of Experiential Learning</td>
<td>26</td>
</tr>
<tr>
<td>2.6</td>
<td>Kolb’s Model of Experiential Learning</td>
<td>26</td>
</tr>
<tr>
<td>3.1</td>
<td>FETAC Awards in National Framework of Qualifications</td>
<td>35</td>
</tr>
<tr>
<td>4.1</td>
<td>ICT equipment used by teachers in class</td>
<td>45</td>
</tr>
<tr>
<td>4.2</td>
<td>Form of computer use by teachers</td>
<td>46</td>
</tr>
<tr>
<td>4.3</td>
<td>Specific areas of ICT use by teachers</td>
<td>48</td>
</tr>
<tr>
<td>4.4</td>
<td>ICT equipment used by teachers as determined by learners</td>
<td>49</td>
</tr>
<tr>
<td>4.5</td>
<td>Teachers perception of learner interest</td>
<td>51</td>
</tr>
<tr>
<td>4.6</td>
<td>Learner interest in subject when ICT used</td>
<td>52</td>
</tr>
</tbody>
</table>
List of Tables

4.1 Demographic information of teachers........................................... 43
4.2 Demographic information of learners ........................................... 44
4.3 Where teachers use ICT in teaching.............................................. 47
4.4 Use of ICT to teach a specific topic on syllabus ........................... 48
**List of Abbreviations**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEO</td>
<td>Adult Education Officer</td>
</tr>
<tr>
<td>AES</td>
<td>Adult Education Services</td>
</tr>
<tr>
<td>BECTA</td>
<td>British Educational and Communication Technology Agency</td>
</tr>
<tr>
<td>BTEI</td>
<td>Back to Education Initiative</td>
</tr>
<tr>
<td>FETAC</td>
<td>Further Education and Training Awards Council</td>
</tr>
<tr>
<td>ICT</td>
<td>Information and Communication Technology</td>
</tr>
<tr>
<td>NCTE</td>
<td>National Centre for Technology in Education</td>
</tr>
<tr>
<td>NCVA</td>
<td>National Council for Vocational Awards</td>
</tr>
<tr>
<td>VEC</td>
<td>Vocational Education Committee</td>
</tr>
<tr>
<td>VTOS</td>
<td>Vocational Training Opportunity Scheme</td>
</tr>
</tbody>
</table>
Chapter One

Introduction

1.1 Introduction

Information and communication technologies are ubiquitous in all aspects of today’s world and it is necessary for individuals to be confident in the use of a variety of technologies in order to function as an active and relevant member of society. More and more communication is occurring digitally and also within the education sector much of the knowledge is imparted in a digital manner allowing for flexibility in teaching and learning.

Educators of adult learners accept that Information and Communication Technology (ICT) can enhance the learning experience, developing learner autonomy and promote a desire for lifelong learning and academic achievement. There is also a realisation that in order for learners to experience all these aspects within the context of adult education they must be supported in embracing the technology. In order for this to occur effectively teachers must harness the potential of ICT and embed it within their teaching to ensure full support of learners in their learning journey. When a teacher of adult learners fully understands the motivating effect of ICT they can manipulate its use to accommodate individual learners.

1.2 Statement of the topic

To fully appreciate how ICT can play a part in the motivation of adult learners it is necessary to gain awareness to teachers’ attitudes to ICT use and how they perceive their current use is enhancing the motivation of their learners. Learners’ perception of how their teachers use ICT is also investigated with further analysis of the motivational effect that this has on the learners. The factors within ICT that lead to motivation within adults are examined and lastly how the motivation of adult learners is apparent through various indicators.
This research will present an investigative analysis of the potential of the use of ICT in an educational environment to motivate adult learners through the development of an awareness of teachers’ attitudes and beliefs about teaching with ICT and the motivational effect that this has on adult learners. Through investigation of what factors motivate learners will assist educators to reduce learner apathy, allow for the proactive design of interesting teaching material and the tailoring of this material to accommodate specific learner needs.

1.3 Objectives

This study’s objectives are to identify the impact that ICT use within adult education has on the motivation of learners to participate in a course of study and also on their motivation to achieve academically. The study also seeks to identify the characteristics of ICT that are most effective in promoting motivation in adult learners and also how a teachers use of ICT in their teaching increases the interest levels of learners engaging them to partake in the learning. It is also an objective of this study to identify in what manner the motivation of adult learners can be readily observable from their behaviour in class.

The specific objectives of this study are:

- To investigate the current use of ICT by teachers within the adult education centre and to gain an insight into their perception of how this use affects the motivation of the adult learners.

- To gain an understanding of the learner perspective of the use of ICT by the teachers and their beliefs on how this use affects their learning.

- To identify the factors of ICT that may lead to an increase in the motivation of learners within the adult education sector.

- To identify the observable alterations in learner behaviour that is indicative of the presence of motivation in learners.
1.4 A case study of Adult Education Centres in the North West of Ireland

Case study as an investigative research method has been recognised as a suitable technique for research within a social setting for example in education or in community based situations, as a case study allows the researcher to observe behaviours that are not readily quantifiable and recordable through other methods.

“A case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident.”

(Yin, 2003, p.13)

As the phenomenon and the context being investigated may not be indistinguishable then the case study:

“relies on multiple sources of evidence, with data needing to converge in a triangulating fashion and as another result; benefits from the prior development of theoretical propositions to guide data collection and analysis”

(Yin, 2003, p14)

Three Adult Education Centres in the North West of Ireland were chosen as the basis for this study and it was decided that a case study approach investigating the three centres would provide the data for the research on the potential for ICT to motivate adult learners. A case study was deemed suitable to gain a holistic overview of current practices within the adult education sector and the motivating potential of these practices on learners. As the investigation takes place in situ the investigator has the opportunity to observe behaviour not readily quantifiable by other means.

Multiple sources of data collection were utilised and these were questionnaires, observation and interviews. The current use of ICT by teachers and their views on its motivational impact on learners was discovered through use of questionnaires and also through classroom observation. The learners’ perspective of teacher use of ICT was gleaned through the distribution of questionnaires and also through observation of learner behaviour within the classroom. Interviews with centre co-
ordinators were used to determine their perception of the motivational aspects of ICT and its affect on adult learners’ academic achievements. The validity of the data collected was ensured through the use of variable methods such as interviews, observations and questionnaires as the results of the case study are supported from more than a single source.

The adoption of a case study approach revealed the multifaceted characteristics of adult education and allowed the consideration of multiple factors within the study (Chaiklin, 2000).

1.5 Understanding how ICT motivates Adult Learners

It has been discovered by the researcher whilst investigating the literature pertaining to motivation of adult learners that although there have been a number of studies in relation to the motivation of students in schools conducted within Ireland (NCTE, 2005) and in the UK by Passey et al (2004) these studies relate to primary and secondary schools. A large amount of data concerning the motivation of young students through ICT in schools and the observable behaviours that indicate motivation is presented in these studies. Although these studies were conducted on primary and secondary schools a comparison can be drawn between the pedagogical and andragogical implications of ICT use. Furthermore, one recent study conducted by BECTA (2009) outlined the role of technology in further education. This study focuses on the many benefits afforded learners by ICT use in further education but does not focus on manner that these benefits may lead to the motivation of adult learners.

There are many articles and research papers on the various aspects of motivation and how it can be determined through extrinsic and intrinsic factors and through motivational theories and design models but there is little evidence on how the use of ICT within an educational environment will play a role in the motivation of adult learners. These previous studies are very relevant to this study as they provide a theoretical framework which can be referenced throughout the current study on adult education.
By conducting a thorough analysis of all these factors pertaining to motivation an attempt was made by the researcher to merge the factors of ICT that motivate with the intrinsic and extrinsic motivation factors that exist for the adult learner in the learning environment. By investigation of how these factors affect the adult learner a greater understanding of the motivational potential of ICT was obtained.

1.6 Significance of the study

The research conducted as part of this study is relevant and useful to educators, programme co-ordinators and administration staff within the adult education sector as it will provide them with information useful in implementing policies regarding the use of ICT in this sector. The findings of this study will benefit these decision makers when issues regarding ICT use in adult education arise. Questions such as:

- Are teachers using ICT effectively in teaching?
- Are teachers aware of how ICT is motivating their students?
- What are the needs of the learner regarding ICT use?
- What barriers are preventing learners from fully being motivated by the use of ICT?

The answers to these questions may provide teachers and programme co-ordinators with information regarding the planning of curriculum and timetables, the purchasing of required hardware and software and the restructuring of policies and procedures.

1.7 Structure of the Thesis

The structure of this study is divided into six chapters and these are described as follows:

Chapter 1 Introduction
The introductory chapter of this thesis outlines a statement of the topic under investigation namely the motivation of adult learners through ICT, the overall
objectives of the study and how the solutions to the topic stated will be the found. The significance of the study undertaken is portrayed and lastly the research methodologies used within this study are discussed.

Chapter 2 Literature Review
A review of literature pertaining to Adult learning and the motivating factors, extrinsic and intrinsic was conducted. This led to further investigation into motivational theories and motivational design models leading to literature on experiential learning. Investigation into ICT in education was also conducted to gain an insight into previous research conducted within this field.

Chapter 3 Research Methodology
This chapter explains the methods used by the researcher, namely a case study approach to investigate how teachers use ICT in their teaching within adult education and its affect on the motivation of their learners. The effectiveness of the research tools used to gather the data are analysed and the methods of data analysis is discussed. Research questions are defined in this chapter.

Chapter 4 Research Findings
The results from the data gathered in the research is presented by research question and through outlining the specific research tool used to gather the data.

Chapter 5 Discussion
This chapter discusses the findings of the research by analysing the research question and how it relates to the context of the literature review conducted.

Chapter 6 Conclusion
The key issues arising from the discussion are reviewed and conclusions are derived from the discussion points. Recommendations to resolve the key points are identified with also a number of recommendations for further study beyond the limitations of this study are presented.
Chapter Two

The Motivational Potential of ICT use on Adult Learners

2.1 Introduction

The purpose of this chapter is to present a review of the literature pertaining to Adult learning and to gain an understanding of the factors that motivate adult learners returning to education. In order to fully appreciate the effect that intrinsic and extrinsic motivating factors have on an adult learner it was necessary to examine how adult learners progress through a motivation process. This led to analysis of literature relating to the constructivist and motivational theorists and how these theories apply to adult learners. The chapter concludes with a review of how experiential learning motivates adult learners and an investigation into the manner in which ICT is currently being used in education.

2.2 Adult Learning

In order to understand and fully accommodate adult learners it is necessary to study the way that adult learners acquire knowledge in an educational environment. The goal of every teacher is to provide students with the skills to develop into self-regulated learners that are engaged in their personal learning experiences therefore it is necessary for teachers to understand how best to motivate adult learners to develop in this manner. Knowles (1984) states that initial studies on how learning occurs were carried out through the study of animals and children and that the understanding of how adults learn was derived from findings of studying animals and children, leading Knowles to further state that adult learners were a forgotten species.

The impact and the success of the learning experience for adult learners within the classroom is dependant on various factors relating to the learner. According to Knowles (1980) cited in Dollisso and Martin (1999) the main factors affecting adult learners are maturity, life experiences, readiness to learn and the ability to apply the knowledge presented to their personal situations.
Adult learners by their very nature are predisposed and are stimulated to learn through the processing of knowledge through a transformation of past life experiences (Knowles, 1984). This has led to further studies that have determined that adult learners acquire knowledge in a manner unique to their own personal make-up (Brookfield, 1995). According to Brookfield (1995) there are four major areas of research on how adults learn and although the areas possess their own unique characteristics there is an overlap between all four and as Brookfield espouses there have been a number of researchers that have made contributions to more than one area.

**Self Directed Learning:** Knowles (1984) hypothesises that within self-directed learning adults go through a transition from dependency on the teacher to increasing self directedness, they identify their own goals, build on their own personal experience as a resource for learning and evaluate their own leaning outcomes.

**Critical Reflection:** Mezirow’s (1998) research on adult learners determined that adults, through critical thinking of their own experiences attach relevance to new knowledge. Critical Reflection involves alterations in beliefs, values and social structures and development of alternative methods of cognitive thinking (Brookfield, 1986).

**Experiential Learning:** Lindeman (1961) hypothesised that adults learn through a process where they become aware of their own significant personal experience and that this significance leads to an evaluation where meaning is applied to experience.

**Learning to Learn:** people continue to learn new skills throughout the process of their lives, however according to Brookfield (1986), for this learning to be effective the learners need to be open and receptive to learning. Adult learners develop a self-conscious awareness of how they have acquired knowledge.
Lindeman (1961) further states that within an Adult Education setting the learner’s experiences are on a par with the knowledge base of the teacher and the demographics within the classroom lead to a shared experience between learner and teacher. For successful learning experiences to occur it is of paramount importance that teachers are perceptive to the needs of the learners and teachers require some comprehension of the factors involved in motivating adult learners. Teachers must also be able to differentiate between motivation and inspiration. Bowman (2007) argues motivation is focused intrinsically through self realisation and also through the manner in which the teacher provides extrinsic motivating factors to the learner. Inspiration to learn develops when the learner is guided by the teacher through the construction of a trusting student-teacher relationship. In order to fully understand the difference between inspiration and motivation it is necessary to further explore motivation and the extrinsic and intrinsic motivating factors that impact on the motivation in adult learners as they undergo the motivational process.

2.3 Motivation

Motivation, according to Wlodkowski (1999) is a hypothetical construct that provides educators with a possible causal explanation for certain behaviours and is difficult to observe motivation directly. Moreover Wlodkowski (1999) maintains that through observation and inference of people’s behaviour it is possible to deduce that a specific method of teaching is successful particularly when there is observation of behavioural traits of persistence and completion. Awareness of the cultural differences between adult learners is essential as factors that augment motivation in some learners may reduce motivation in others.

In understanding motivation it is necessary to study both extrinsic and intrinsic motivating factors that lead to successful learning in adult learners.

2.3.1 Extrinsic Motivating Factors

Extrinsic motivation is the compliance of an individual to act in a certain manner based on the assurance of an incentive. Extrinsic motivating factors are those that
encourage a learner to participate in learning so that there may be some form of reward or positive outcome such as good grades or recognition of achievement. According to Kohn (1994) extrinsic motivating factors do not change a person’s commitment to learning but may lead to a situation where learning takes place only when a reward can be gained.

The practise of promoting education through rewards and extrinsic reinforcement is based on the assumption that students will be encouraged to learn only if they receive a reward and while this practise is successful for those learners that are encouraged to succeed it fails those who are not supported in a similar manner (Wlodkowski, 1999). Learners become exposed to increasing numbers of extrinsic motivating factors as they progress on their educational journey and cultural differences in learners is a significant factor in the success of extrinsic motivation (Wlodkowski, 1999). Learners from diverse cultural backgrounds place differing values on different extrinsic factors such as better grades, promotion in work or praise from supervisor or teacher. Wlodkowski (1999) suggests that a person is fundamentally motivated through their emotions and as emotions are cultivated through socialisation and interaction with others, it follows that cultural background plays a fundamental role in a person’s value on extrinsic factors.

Ultimately learners will continue to be influenced by extrinsic motivation factors when the incentives are present, but once the incentive ends there may no longer be any reason to achieve (Kohn, 1994). In order for an adult learner to be continuously motivated to learn there should not be a reliance solely on extrinsic motivating factors but the learner needs to also be motivated through personal intrinsic factors.

### 2.3.2 Intrinsic Motivating Factors

Intrinsic motivation occurs when a learner partakes in learning based on their own interest or significance of the subject matter and not primarily to achieve a reward (Isen & Reeve, 2005). Intrinsic motivating factors are internal and individual to the learner and may satisfy basic human needs through development of feelings of
self worth. Adult learners are stimulated to learn by internal factors such as achievement of a personal goal as opposed to external factors like monetary gain (Dollisso & Martin, 1999).

Intrinsically motivated adult learners take pride in their achievements and will also be motivated through the endeavours of their peers and this in turn leads to construction of meaningful learning experiences (Bowman, 2007). Students who are motivated to achieve through intrinsic motivating factors such as mastery of a skill or exploratory study demonstrate greater task involvement and also develop greater effective learning strategies than those students that are focused only on their performance and achievement of grades (Covington & Müeller, 2001).

Weber (2003) affirms that adult learners are motivated to learn through interest in the topic and subsequently they view learning activities under three main factors:

- **Meaningfulness**: adult learners assess how valuable an activity is to them personally. The effort that the learner invests in the activity is proportionate to the value they place on the activity.

- **Competence**: on personal reflection adult learners will assess their own ability and previous knowledge of the topic and decide how competent they are to complete the task. Interest in the topic is either heightened or diminished depending on the self assessment result.

- **Impact**: adult learners will attempt to gauge before undertaking any learning activity what impact the learning will have on them as individuals. The level of importance or significance of the learning is dependant on the impact the learning will have.

Motivation of adult learners promotes a desire to partake in education and although the motivation of each learner may be from either extrinsic or intrinsic factors the learning results in individualistic learning experiences. According to Doherty (1998) teachers have a vital role in structuring learning to ensure that the learner is engaged in the learning process and that they are collaborating with their peers to construct knowledge. Doherty also argues that a learner’s involvement in the learning process will ensure that they will tailor the learning to suit their own
particular needs and interests guaranteeing that the learner will take ownership of the learning experience. When learners have ownership of their learning this promotes greater intrinsic motivation and the need for further achievement.

Ownership of learning will lead to a causal effect on behaviour according to Ahl (2006) which concurs with Wlodkowski (1999) who also states that motivation influences behaviour. Ahl (2006) maintains that motivation leads to an alteration in a person’s behaviour and that motivation in itself could be considered a stimulus for further learning.

2.3.3 Motivational Process

Motivation of learners requires that they move through a motivational process that firstly determines their needs, establishes what source of gratification is there to satisfy the need, modifies behaviour in an attempt to satisfy the need, and lastly there may be a realisation of a new need or a re-evaluation of the original need (Halepota, 2005).

Fig 2.1  Motivational Process  [Source: Halepota, 2005]

Bye et al (2007) determined that when a person enters the motivational process they learn new skills, experience new challenges and build their knowledge on the basis of past experiences. Whilst in this process a person will make distinctions between activities that are of relevance to their intrinsic and extrinsic motivating factors and those that have no relevance and will make choices based on these factors. For example if a person has a desire to visit a particular country, they may familiarise themselves with the language, local interests or places to visit.
The interest in one area motivates a yearning to learn more on another which is a motivating factor in itself when it leads to self directed learning. This is especially relevant to adult learners who need to apply significance to the application of knowledge. To further determine how adult learners are motivated within the motivation process it is necessary to examine the literature pertaining to the constructivist manner that adult learners adopt when applying significance to new knowledge and the effect that this constructivism has on their motivation.

### 2.4 Motivation and the Adult Learner

Most adult learners are intrinsically motivated to partake in education through the fact that they have chosen to undertake a course of study and although they are motivated to perform, the sources of the wide range of both intrinsic and extrinsic motivating factors are specific to the individual learner. Adult learners who are motivated intrinsically demonstrate behaviour of directed learning and those learners influenced by extrinsic motivating factors perform solely to gain academic achievement or reward (Isen & Reeve, 2005).

Educators of adult learners need to equate equal importance to both intrinsic and extrinsic factors as they are of comparable importance in the learning process. Intrinsic motivation factors augment the effectiveness of the learning process through boosting the learners ability to self reflect and through development of transformative learning as outlined through Mezirow (Kitchenham, 2008). Learners influenced through extrinsic motivating factors such as achieving higher grades place greater importance on their achievements once some personal meaningfulness of their accomplishment has been registered. In light of this, teachers need to promote the development of self reflection through support and encouragement (Wlodkowski, 1999).

Ashcraft et al (2008) further state that it is important for a learner’s development that they adopt a constructivist approach to learning. A learner who actively becomes involved in their own learning process will attribute more value to their learning and so attain a higher level of intrinsic motivation (Crowther, 1997). As such, it is important for adult learners to be able to construct their own
interpretation of learning, based on their own prior experiences; therefore the real strength of adult education is its ability to support students to learn in a reflective and self-paced environment.

2.4.1 Constructivism

Constructivist theorists, Piaget (1952), Bruner (1985) and Vygotsky (1978) cited in Tassoni & Beith (2002) ascertains that learning is best achieved when the learner is actively exploring, investigating and solving authentic problems. Furthermore, constructivists assert that learners should be actively engaged in seeking knowledge and information rather than being passive recipients within the traditional broadcast learning environment. Adult learners therefore need to become skilled in information management rather than being adept at memory management as there is a transition from the classroom where the teacher is a didactic figure imparting knowledge that the learner accepts without question.

Constructivism is based on the premise that learning should be an active process where learners acquire new skills based on their own knowledge and previous experiences. The learners are learning by experience rather than through instruction (Crowther, 1997). When learners are confronted with new knowledge and new experiences they will try to assimilate this new knowledge with past experiences and in this way their learning is creative, individual and personal.

Constructivist learning is categorised into social constructivism and cognitive constructivism. Piaget (1952) and Papert (1980) have argued that through cognitive constructivism, learners build their own knowledge by constructing mental models or schema depending on their own past experiences. Over time these schemas are developed, modified and become more sophisticated (Neo, 2003).

Vygotsky in 1978 built upon the premise of cognitive constructivism with the idea that learners develop their knowledge based upon the social interaction within the learning environment. Tassoni & Beith (2002) cite Vygotsky’s ‘Zone of Proximal
Development’ as the basis for the argument that learners can master concepts and ideas that are beyond their current capabilities, with the aid of adults or more advanced peers. Vygotsky explains the ‘Zone of Proximal Development’ as the distance between what learners can achieve alone and the level of achievement reached when in a guided environment supported by a teacher and in collaboration with a peer group.

Vygotsky further describes learning as a social and collaborative activity where the teacher sets up a learning situation and facilitates learning with intervention and support, allowing learners to develop, control and take responsibility for their own learning. Teachers can provide appropriate support for the learner within their Zone of Proximal Development and this requires careful consideration that the support is in context with the social environment within which the learner exists. By achieving this level of support a teacher will reinforce learning and also allow the student to accept the knowledge and adapt it to their personal understanding and to alter their existing frame of reference (Cohen et al, 2004).


- **Context**: adult learners respond more effectively when they are provided with learning material that they can associate within a real-life context. They need to be able to conceive solutions to a problem.

- **Construction of knowledge**: once the learner has conceived problem solutions then the activities carried out to gain knowledge of the solution form the basis of that knowledge.

- **Collaboration and conversation**: through interaction and collaboration with a teacher and peers there is a sharing of ideas and support by which learners are supported to reach their full potential.

Creation of a learning environment that will afford adult learners freedom to progress and develop holistically is the fundamental objective of the Adult Education services. To ensure that adult’s needs are satisfied and that motivation
to succeed is an intrinsic value that learners develop within this learning environment, it is necessary to refer to the theories of Motivation and their application in adult education.

2.5 Motivational Theories

Motivation of adult learners is the key factor of the success of Adult Education as increased motivation leads to the satisfaction of learners needs which ensures that learners will develop holistically and have richer learning experiences. Theories of Motivation can be broken into two categories: Content and Process. The Content theories are those that are concerned with meeting and satisfaction of needs such as Maslow’s Hierarchy of Needs and Herzberg’s theory. Process theories are those that are based on the human rational cognitive process such as Vroom’s Expectancy theory and Adams Equity theory (Collins, 2007).

2.5.1 Maslow’s Hierarchy of Needs

One of the most enduring of the Motivational theories in practice today is Maslow’s Hierarchy of Needs. Knowles (1984) declares that research carried out by Maslow in 1954 places emphasis on two groups of needs; deficiency needs and growth needs. Within the deficiency needs Maslow outlined four levels and he maintained that the lowest level needs must be satisfied before other levels are fulfilled.

1. **Physiological needs**: hunger, thirst, warm and bodily comforts.
2. **Safety needs**: feeling safe and secure, free from danger.
3. **Belonging needs**: having relationships, being accepted.
4. **Esteem needs**: achievement of goals, obtaining recognition for achievement.

From this hierarchy it can be deduced that physiological needs take precedence over safety needs and that these need to be satisfied before a person can feel safe and secure.
Growth needs, according to Maslow are self actualisation which promotes the concept that a person strives to recognise their maximum potential. Maslow’s interpretation of a self actualised person was someone who was problem focused, incorporated an appreciation of life to their persona, was conscious of their own personal growth and had developed the skill to have confidence in their ability.

2.5.2 Herzberg Theory

Herzberg’s (1959) motivational theory as outlined by Lahiff (1976) involves two factors that determine how motivated or satisfied a person is in work/study. The motivating factors he further divided into categories called motivators and hygiene factors.

- **Motivators**: these are features that are concerned with the current situation of work/study and are incorporated into either a work/study environment to promote intrinsic motivation within employees/students. Motivating factors may be recognition for achievement, responsibility and the possibility of advancement of growth within their role.

- **Hygiene**: hygiene factors are those comprised within the context in which the work/study occurs. Hygiene factors comprise of working conditions, interpersonal relations, and levels of supervision or salary.
Herzberg theorised that only Motivators lead to motivation and that Hygiene factors in themselves do not lead to satisfaction within an individual but absence of them results in dissatisfaction (Lahiff, 1976). Hygiene factors may exist independently of motivation factors as a person may be motivated in their work/study but may be dissatisfied with their work/school. Motivators have a long term positive effect on motivation while hygiene factors are associated with a short term change in motivation.

2.5.3 Expectancy Theory

The Expectancy theory of motivation originated from studies carried out by Victor Vroom in 1964 (Collins, 2007). Vroom advocated that the level of motivation that a person experiences is in direct correlation upon their perception of their capability to perform a task, the outcome of the particular task and value placed on the outcome. In order for a person to be motivated, Vroom theorised that there must be a link between the effort required to carry out a task, the expected resulting outcome of the task and the motivation to carry out the task. There are three variables associated with Vroom’s Expectancy theory: Expectancy, Instrumentality and Valance.
### Expectancy
When a person believes that an increase in effort to accomplish a task will result in greater performance they have expectancy that harder work produces results.

### Instrumentality
Is a person’s conviction that an increased performance will result in some form of remuneration. The person is conscious of the increased level of participation required in the task in order to achieve the reward.

### Valence
Is the significance that a person places on the expected remuneration following achievement of a task. If a student has an expectancy to achieve a certain grade they will not be satisfied with any grade lesser than their expectations.

![Vroom's Expectancy Theory](source: Collins, 2007)

**2.5.4 Adam’s Equity Theory**

The Equity theory first established by John Stacey Adams in 1962 asserted that people tend to focus on equality of treatment between peers. The theory proposes that people reflect on how fairly they are treated in comparison with the treatment of others. When a learner puts greater effort into a task than a member of their peer group and then subsequently receives an equal or lesser grade they will feel that they have been unfairly treated and that their efforts have not been recognised as greater than their peer (Collins, 2007).

Adams theorised that people seek a balance between the input of effort into work and the output received as a reward or recompense. Inputs may be time, effort,
loyalty and commitment and outputs may be esteem, praise, recognition or monetary reward. Once a person feels that they are in an inequitable relationship they experience stress, as does the person who has received the greater output who will feel shame at being treated more favourably than their peer. An equal balance must be restored or the persons who experience the inequity will not be motivated as their efforts are not recognised or little effort is overly rewarded.

2.5.5 Motivation Theories in Education

All these motivational theories, although differing in structure, concur with the assumption that society is motivated through extrinsic factors of reward but that remuneration alone is not rewarding. Knowles (1984) maintains that although adults are responsive to external factors of financial gain or promotion the most potent motivating factors are increased internal factors of self esteem and satisfaction in personal achievement. Adults will continue to be motivated to develop and grow but feelings of negative self concept or lack of resources and time may have a detrimental affect on the motivation. A person will only be fully satisfied if all their intrinsic needs are realised in conjunction with extrinsic needs.

Although the motivational theories are utilised in the business world they can also be applied with great relevance in the motivation of learners, especially adults. The role of the teacher in ensuring that learners are motivated to reach their full potential is paramount to the success of Adult Education. Dollisso and Martin (1999) postulate that learners cannot be concerned with recognition for achievement if their basic needs of warmth, hunger and thirst are not met. Maslow’s hierarchy therefore is a suitable reference in ensuring that comfortable classroom environments, which are conducive to learning, are provided. Furthermore, motivation takes place when learners are exposed to stimuli from the teacher and when an observable alteration in behaviour is rewarded by the teacher (Ahl, 2006) which complies with Herzberg’s theory. The stimuli could be construed as the motivating while the reward is the hygiene factor.
Adult learners may also undertake a course of study to gain awards or for promotion but may have to balance this with the fact that they may have less time for personal relationships. This concurs with Vroom’s Expectancy theory where a person is aware of the amount of effort required to achieve, what the consequences of the achievement are and the exact value of the expected achievement (Halepota, 2005). Teachers should be conscious of Adam’s Equity theory when they are providing learners with grades or feedback. All learners should be treated equally to ensure that they possess a sense of equity and balance within their peer group (Collins, 2007).

As well as being conscious of the influence of the motivation theories on the motivation of adult learners’ educators must also be aware of how these theories can be incorporated into a teaching approach that will enhance and sustain motivation through the use of a motivational design model.

### 2.6 Motivational Design Model

To maintain a learner’s motivation to succeed and to promote effective learning a teacher ought to adopt a methodology to their teaching that follows Motivational Design Models such as Keller’s ARCS Model of Motivation Design (1987).

#### 2.6.1 Keller’s ARCS Model of Motivation Design

Studies of motivational needs and how they are met are based on four dimensions of motivation as laid down by Keller (1999). These dimensions are the result of an amalgamation of research on human motivation and Keller’s motivational model devised in 1987 which outlines the dimensions as Attention, Relevance, Confidence and Satisfaction:

- **Attention**: the teacher gains the learner’s attention by asking a question that necessitates some degree of reflection. A learner’s attention is maintained by offering them topics through which they evaluate their current understanding of the topic and consider their competence in completing a task.
- **Relevance**: an attempt should then be made to relate the lesson being taught to some aspect of the learner’s past experiences so that they can attach some relevance to this new information and take ownership for their own learning. Adult learners need to be able to associate relevance to the topic with previous knowledge.

- **Confidence**: as learners take ownership of the learning they gain confidence in their own ability to understand and become motivated to succeed. Self esteem is promoted through a learner’s growth in confidence of their own ability.

- **Satisfaction**: lastly the learner experiences a level of satisfaction through encouragement and support from the teacher who imparts opportunities to apply new knowledge to previously honed skills. Learners are motivated to continue learning and developing expertise once they can master new skills.

Through an awareness of Keller’s ARCS model and an application of said model whilst deciding how to use ICT in an educational environment, teachers can become managers of the learning taking place and also promoters of motivation through stimulation and maintenance of interest (Keller, 1999). To facilitate an appreciation of the manner in which teachers are using motivation models within their teaching it is necessary to consider the use of ICT in education and its impact on motivation.

### 2.7 Motivation through the use of ICT

Studies by Passey *et al* (2004) within 17 schools in England affirmed that the use of ICT encouraged motivation in learners as it offered them a means to fulfill personal learning goals and had a positive impact in developing experiential learning and self discovery. The study was conducted over a wide geographical area on pupils ranging from primary, secondary to special schools. The research also established that the level of interest and knowledge attainment was higher in
classrooms where ICT was used within subject specific lessons such as technology and design. Passey et al (2004) noted that the use of ICT offered learners more positive approaches to motivation and afforded them the opportunity of self directed and exploratory learning. Learners therefore were motivated to fulfill their learning goals and to envisage success when the materials and teaching methods used were appropriate. Teachers within the study reported that learners were directly motivated to a greater extent when the use of ICT focused on teaching and learning, accommodating interaction and collaboration with peers. ICT utilized solely for teaching such as through display of teaching materials had a lesser impact on the motivation of learners.

By incorporating motivational teaching principles to multimedia material and equipment used for teaching, educators supply learners with knowledge which they attach relevance to and associate this new knowledge with skills they already possess.

Learners when equipped with information strive to comprehend a concept by reaffirming it in their own language; they then apply the concept to a new problem by deconstructing the concept to manageable parts. Analysis of the problem ensues where the learner then reconstructs the concepts to solve the problem. Once a learner has solved a problem they evaluate their actions and assess what was effective in the solution. Evaluation of ones actions and the effectiveness that they have in problem solving then provides the learner with a self assurance in their competence. As confidence is gained, motivation ensues and a thirst for new knowledge is quenched by a continuous cycle of learning (Pear and Crone-Todd, 2002).

This cycle according to Bloom’s taxonomy (1956) outlined in Knowles (1984) satisfies the domains of educational objectives which are:

- **Cognitive**: This deals with the recall or recognition of knowledge and development of intellectual abilities and skills.
- **Affective**: This describes the changes in attitude, interests and appreciation of learners.
- **Psychomotor**: This is the development of physical and motor skills such as perception and responsiveness.

Throughout modern culture there is a demand for learners to have a level of ICT competency that provides them with higher-order thinking skills, the ability to navigate and research information, manage information retrieval, construct and deconstruct ideas and to basically have what Younie (2001) refers to as a “cognitively flexible literacy”. In order for learners to develop all these skills they would have to be competent and experienced in using exploratory approaches to learning and they would benefit from teaching methods promoting these skills. An opportunity to adopt this exploratory tactic is provided when learners are afforded the chance for experiential learning. Experiential learning is learning that occurs through experience or discovery as opposed to rote or reception learning. Younie (2001) further states that once learners are introduced to the vast quantities of knowledge available through the use of ICT it is important that they are taught how to assimilate and use this knowledge constructively.

A world with vast quantities of information, without discerning judgment as to its worth, is a world without knowledge. Knowledge is information, the worth of which is known.

(Younie, 2001)

For this concept to have relevance in Adult Education it is important that teachers adopt ICT into their teaching methodology but careful consideration needs to be applied to the significance of the use of ICT. Learners’ needs will not be met if teachers use technology outside the context of the topic being taught. The use of ICT is very productive when it satisfies the learning styles of the learners as is outlined by a recent study by BECTA on the role of Technology in Further Education and Skills.

BECTA (2009) reported that in situations where ICT was used for creative or project based learning that there was a greater collaboration between learners and that they portrayed a greater level of engagement and motivation. This teaching method according to BECTA (2009) is effective for learners who work best
through collaboration and discussion and affords learners the opportunity to build upon discoveries within their learning which leads to experiential learning taking place.

2.8 Experiential Learning

In choosing software or multimedia material for use within a classroom environment a teacher needs to understand and accommodate all learning styles. Some students learn best through verbal instruction, others by observing demonstration and others by actively being involved.

2.8.1 Edgar Dale’s Cone of Experiential Learning

Long and Ehrmann (2005) cites ‘The Cone of Experiential Learning’ (Fig 2.5) formulated by Edgar Dale in 1969 as a valuable model in determining how students retain knowledge and when a teacher incorporates characteristics of as many learning styles as possible into their teaching they will satisfy the needs of a greater range of learner’s learning styles. Dale’s cone of learning purports that a student’s retention of learning can be measured in a cone-like model.

This model illustrates that 10% of what we read is retained after 2 weeks and that 90% of which we learn by being actively engaged in the learning process is retained after 2 weeks. So consequently, by encouraging and supporting students to be actively involved in learning they enthusiastically discover solutions that will result in a greater retention of learning which results in a growth in confidence.
2.8.2 David A Kolb’s Experiential Learning Model

By following the Experiential Learning Model (Fig 2.6) developed by Kolb in 1984 cited in Atherton (2005), teachers can assess which stage the learner is at and then tailor the instruction to suit their needs. Kolb determined that in order for learning to occur, a learner has to pass through a transition of four phases of learning. These four phases are:

![The Experiential Learning Cycle]

**Fig 2.6**  *Kolb’s Model of Experiential Learning* [source: Atherton, 2005]
- **Concrete Experiences**: corresponds to learning where the learner is actively involved in a particular learning situation. While a learner undergoes concrete experiences they observe the effect their actions have in any given situation.

- **Reflective Observation**: following concrete experiences a learner enters an observation stage where reflection of learning situations experienced previously in the Concrete Experience stage occur. Through reflection learners gain an understanding of exactly what they have experienced and how this will affect them in the future.

- **Abstract Conceptualisation**: involves the learner interpreting the events that have occurred and analysing the reasons why it occurred as it did. Learners use logic and ideas in order to understand problems or situations.

- **Active Experimentation**: learners can test the ideas that were conceived through Abstract Conceptualisation. Within this phase the learner is actively doing what has been experienced and reflected upon in the earlier phases of Kolb’s cycle.

In order to fully appreciate how experiential learning is motivating to adult learners it is necessary to examine what are the motivating factors of ICT in education and how they allow learners to learn experientially.

### 2.9 ICT in Education

The effective use of multimedia and ICT in educational environments has led to a transition in the way that learners acquire knowledge and in the methods that teachers use to impart learning materials. When teachers use multimedia in their teaching, information is communicated more effectively and the learners are stimulated and their interest maintained (Neo and Neo, 2000).

Whilst Pucel and Stertz (2005) postulate that technology is the tool to facilitate learning within a multimedia classroom, the tool of technology, does not necessarily determine the success of the learning. The principal factors of success in learning are the dedication and expertise of the teacher, the willingness of the students to receive the information and also their openness to change. According
to Wishart and Blease (1999) when learners use educational software and multimedia within the classroom they are intrinsically motivated to learn through the challenges and complexity offered in the software which appeals to a great many different learning styles.

By integrating a multimedia dimension to classroom activities teachers promote the development of higher-order cognitive skills such as problem solving leading to a greater understanding of concepts (Sinclair et al, 2003).

According to Bracely (1993) cited in Thomas & Emergele (2002) computer-using teachers have perceived computers as an aid to motivating students to pay attention to their academic work and that students enthusiasm for subjects increased by using computers during mainstream curricular activities.

The use of ICT in education can fulfil the needs of a larger number of learning styles than the traditional method of textbooks. Although the traditional methods of teaching of ‘Chalk and Talk’ do have their place in classrooms the introduction of ICT will afford learners the opportunity to learn in a more collaborative and interactive manner. Furthermore, ICT also offers learners the means of completing tasks that they may have found unpalatable, and indeed, make the aforementioned tasks more interesting and motivating (NCTE, 2001).

Additional factors relating to the use of ICT in the learning environment have also been seen to improve a learners experience as they can also effectively satisfy the different learning styles.

2.9.1 Multiple Intelligences

Gardner (1993) formulated a theory of seven intelligences that he maintained human beings possessed. Education at all levels can benefit from devising a structure for teaching that reflects an understanding of Gardner’s theory as it accommodates learners or diverse abilities and aptitudes. ICT use in the classroom is restructuring the traditional methods of teaching from one where
learners were passive recipients of knowledge that was presented visually through textbooks or aurally through the lecture forum. By offering multimedia forms of presentation the use of ICT in the classroom has made knowledge greatly accessible and has encouraged learners to develop more lateral, associative and visual thinking skills therefore satisfying a greater number of intelligences.

2.9.2 Simulation

Adult learners benefit from the use of ICT in education when it provides them with the experience of learning through simulation and to perform real-life skills in a secure environment (Cromley, 2000). Adult learners returning to education may have a hesitation towards the use of ICT of which they have little or no experience and well designed multimedia software can allow them to overcome any apprehension they experience in a controlled and protected manner.

2.9.3 Building Communities

Parente et al (2007) determined that successful learning takes place through collaboration and interaction and within a communal activity. The success of social networking and online communities such as ‘Bebo’, ‘Twitter’ and ‘MySpace’ demonstrates how these convergent groups have transcended physical space but still have actively engaged participants (Preece & Maloney-Krichmar, 2005). Collaborative communities within education provide learners with a sense of purpose, the opportunity for adult learners to interact, and imparts a sense of respect and support between its members which helps students overcome the fear of use of ICT.

In 2008 following collaboration between Intel, Microsoft and An Post a ‘buddy’ system between transition year students and older members of the community named ‘Log On Learn’ was launched, where a student would tutor an elderly person about aspects of using ICT. According to Log On Learn (2009) this initiative will lessen the ‘digital divide’ between old and young and afford the elderly to participate in the digital age of today. The program has been so
successful that it won the ICT Excellence Award 2009 under the Corporate Social responsibility category (Log On Learn, 2009).

2.9.4 Interactivity

For the use of ICT in the classroom to be truly interactive it should build some human interaction into the learning. According to Cromley (2000) computers are most effective in learning when they include peer interaction such as in real-time discussions and where the software is designed to ‘interact’ with the learner through adaptation to the learning pace or preferences of the learner. When learners can customize the software to suit their learning style by altering sound and visual aspects such as font size or voiceovers and through measuring the pace of learning by incorporating a timer to a lesson as in a typing tutor program, they will take ownership of their learning using the particular program and will be motivated to continue learning. This complies with Dale’s Cone of Experiential learning where he demonstrates that through active participation in a learning activity a greater level of knowledge is retained (Long & Ehrmann, 2005).

Through the use of ICT in a classroom there is greater accommodation for learners with disabilities, either physical or learning disabilities. Visually impaired learners can be accommodated through text-to-speech software whilst audio books can greatly benefit those with literacy difficulties (Cromley, 2000). Help functions incorporated into software will provide support to learners and will not detract a learner from carrying out a task even if they are unsure of their capabilities to perform the task. For example, a learner who demonstrates poor spelling ability can type on a word processor safe in the knowledge that the spell check program will correct their errors.

Interactive software that builds a profile of the learner and provides learning material based on the learners abilities supplies the learner with a baseline from which to progress and also a visual record of their achievements. This is dependant upon the teacher recognising a learner’s baseline and providing the appropriate help and support in order to facilitate the learner to reach their full
potential and progress. This feature of progression feedback concurs with Wishart and Blease (1999) statement that learners are intrinsically motivated when they perceive themselves to be actively in control of their learning.

2.10 Conclusion

In order to address the question on how ICT motivates adult learners, it was necessary to review literature that demonstrated that motivation is determined by a number of aspects. These factors are both extrinsic and intrinsic and the level of motivation experienced by the learner, depends on how influenced they are by extrinsic factors and the level of self actualisation they possess through intrinsic motivation.

The motivational theorists have established that learners are motivated when their needs are met and when they can place relevance and ownership on their own learning. Adams (1964), Herzberg (1959), Maslow (1954) and Vroom (1962) all determine that people need to have a level of intrinsic motivation through self awareness and they must create their own goals to experience a sense of self actualisation.

Integration of ICT within the educational environment will assist adult learners to obtain their personal learning objectives while interacting with the computer in a secure environment. They can then apply the skills learned by using the hardware and software to working in real-life situations allowing them to develop with confidence and conviction. The use of ICT in education according to Passey et al (2004) aids the learner in evaluating the task, assessing their ability to complete it and then devising a strategy to solve the problem. In order for ICT to be truly effective in the motivation of learners it must be used with relevance to the subject being taught, used as a tool for learning and provide learners with a focus point for their learning.
Chapter Three

Research Methodology

3.1 Introduction

This chapter provides a detailed explanation of the methods used to investigate the motivation potential of ICT and its use within Adult Education Centres in the North West of Ireland. The Case Study method of research was chosen as it provided a form of qualitative descriptive research that focused on the potential for ICT to motivate adult learners within the context of the Centres in the North West. To gain a holistic understanding of the motivating potential of ICT on adult learners and also the rationale behind teachers’ use of ICT the research methods of questionnaires, observation and interview were used.

3.2 Research Questions

The initial step in the research process was to establish a focus for the explorative study by construction of research questions. The questions ascertain the purpose of the study and provide a structural reference for the research carried out. The research questions pertaining to this study are:

- How do teachers use ICT in their teaching and learning activities?
- How does the use of ICT increase the motivation of adult learners?
- What are the motivating factors that facilitate learning through ICT in Adult Education?
- How does the motivation of learners through ICT manifest itself?

As these Research questions require an in depth analysis of the practices of the teachers and learners within the Adult Education Centres in the North West of Ireland it was considered necessary and appropriate to adopt the Case study research paradigm in this instance.
3.3 Research Methodology

The Case study research approach affords the researcher the opportunity to explore and gain an understanding of a multifaceted subject and is considered the appropriate method when the researcher requires a more holistic analysis of the topic at hand. Case study, as an investigative method has been recognised as a suitable technique for research within a social setting for example in education or in community based situations, as a case study allows the researcher to observe behaviours that are not readily quantifiable and recordable (Yin, 2003).

Observation of behaviours displayed within the research situation enables the researcher to accumulate an in-depth and comprehensive understanding of the circumstances and context within which the research takes place. Through an examination and investigation of the interplay between all the variables within a research situation the researcher becomes immersed within the actual context of the research and is therefore greater equipped to absorb all the dimensions within a comprehensive investigation.

The strength of case studies as a research methodology lies in the fact that a case study may simultaneously consider multiple factors within the context of the study through testing hypothesis and establishing causal behaviours of the participants (Chaiklin, 2000).

As outlined within the literature review, Bracely (1993) theorised that when teachers use ICT in mainstream curricular activities the interest level of learners is maintained and stimulated. A larger number of learning styles can be accommodated and learning needs satisfied. Research through observation of a learning activity using ICT will demonstrate the motivation of the learners and the resulting behaviours will be quantifiable.

3.4 Background of Research

The area of Adult and Further Education is of particular relevance to the researcher having progressed through the Adult Education Services (AES) as an
adult learner returning to education in later life. Learning through ICT was a new and fulfilling experience for the researcher and through the encouragement of teachers within the Adult Education Services, progressed to third level education and subsequently became a teacher of IT. The researcher has taught IT to adult learners within the Adult Education Services (AES) for six years and has enjoyed contributing to the ethos of the AES. The AES is run under the auspices of the Vocational Education Committee (VEC) whose mission statement advocates that they are committed:

‘To promote, offer and support accessible, inclusive and holistic learning opportunities which will enable young people and adults to empower themselves to reach their full potential in society.’

(VEC, 2008)

The Adult Education sector within the North West encompasses six dedicated Adult Education and Training Centres which provide training under the Vocational Training Opportunity Scheme (VTOS) and the Back to Education Initiative (BTEI). The VTOS scheme offers second chance training to adults over 21 years of age and has been important in providing opportunities to those members of society marginalised by unemployment. BTEI also provides training to adults and young people but prioritising those with less than second level education. The accreditation offered to learners is from Further Education and Training Awards Council (FETAC) and also through the Leaving Certificate from the Department of Education.

FETAC was established in 2001 having been previously known as the National Council for Vocational Awards (NCVA) and it offers certification through study of modules at Level 1 to Level 6. FETAC offers quality assured awards that comply with national standards within the National Framework of Qualifications shown in Fig 1. These awards create opportunities for learners in further education and training to gain recognition for their achievements, and provides access to systematic progression pathways.
3.4.1 Selection of Adult Education Centres

Within the six Centres in the North West there are 250 learners and 16 teachers, and as a basis for the research three of the six centres were chosen for the following reasons:

The three centres:

- have the largest combined pool of adult learners.
- offer training under the VTOS and BTEI schemes.
- offer Business, Childcare, Community Care, Computer Application and Leaving Certificate courses.
- have learners of diverse ages and cultures.
All the Adult Education Centres within the North West run night classes throughout the academic year; however the research took place only within the daytime classes under the VTOS and BTEI schemes.

3.4.2 Selection of Teachers

Permission was sought and granted from the Adult Education Officer to distribute questionnaires to teachers and learners within the three chosen centres. All teachers within the three selected Centres were asked to complete a questionnaire ensuring that mainstream subjects such as Leaving Certificate or Childcare would be represented equally to ICT based subjects such as Computer Applications.

The majority of teachers within the centres chosen are female and are aged between 30 years and 50 years. The teachers teach one or more of a range of subjects which include:

- Biology
- Bookkeeping
- Business Studies
- Childcare
- Community Care
- Computer Applications
- English
- Geography
- History
- Marketing
- Mathematics
- Payroll

Computer Applications as a subject encompass a large number of elements of IT such as web-design, spreadsheet and database and also administrative skills.

It is an important factor of Case Study to consider all elements within the case and through inclusion of teachers of non-ICT subjects there will be a greater understanding gained on the use of ICT in teaching these subjects and on how these teachers strive to satisfy the various learning styles present in the classroom.
3.5 Research Tools

Several research methods were implemented to assemble the research data and these were; questionnaires, interview and observation. The merits of the various methods used within the research are discussed within this section.

3.5.1 Questionnaires

The questionnaire is a widely used research tool that can be used to collect data from a research sample. A degree of planning of the design of the questionnaire is necessary before the structure is decided upon. The focus of the research undertaken within this Case Study required that data be collected from both learners and teachers; therefore a questionnaire was constructed for learners and a separate one for teachers. Every participant, teachers and learner alike were issued with a letter outlining the purpose for the research and seeking their cooperation in undertaking the questionnaire (Appendix A and Appendix B). The questions in the teacher questionnaire were designed to provide a view of the current practices of the teaching staff within the AES with regard to their use of ICT in education and also to exhibit the level of understanding of teachers of the motivating factors of ICT on the adult learners. In order to ensure that all these issues were resolved the questionnaire was divided into a number of different sections; andragogical, personal and practical (Appendix C).

The questionnaires distributed to the adult learners were designed to elicit the degree of motivation experienced by the learners from the current practices within the teaching activities using ICT. The learner questionnaire was also divided into sections; emotional, personal and practical (Appendix D).

Cohen et al (2007) propose that the following elements of questionnaire design are paramount to successful data collection and need to be considered in the initial stages of research method planning:

Ethical Issues
Types of questions:
Piloting of the questionnaires.

The ethical issues concerned with questionnaires such as anonymity of the participants was resolved by ensuring that privacy was afforded to each person while they completed the questions and no question within the questionnaire could extract any unique identifying information. All participants willingly agreed to partake in the research and were not coerced in any manner.

The interest of the participants while completing the questionnaires was maintained through use of a variety of question types. Closed questions were used to generate statistical responses that were easier to analyse. Open questions were included in the questionnaire when the specificity of the issue was required and the participants were free to express their opinions. Multiple choice questions afforded the opportunity to document complex issues where there was a range of possible responses. The rating scales questions provided respondents a greater freedom in specifying their level of agreement to a particular statement.

Both questionnaires were piloted on teachers and learners to determine the following:

- Length of time to complete the questionnaires.
- Ambiguity of questions.
- Clarity of questions and instructions to participants.
- Sensitivity of any questions.
- Relevance of the questions to the topic.

Feedback from the pilot participants highlighted a number of necessary modifications where some questions were deemed ambiguous or unclear to the reader.
The modified questionnaires were distributed to the learners and teachers in each chosen centre and a time frame of ten days was allocated before collection of completed questionnaires.

3.5.2 Interview

Research by interview enables the researcher to use multi-sensory channels for collection of data as verbal, non-verbal, visual and auditory communication can all be quantified (Cohen et al 2007) and due consideration of this factor is essential in choosing interview as a research method. Interviews may be used in research to gain an in-depth insight into a person’s knowledge of the subject area, to identify variables and relationships within the topic area and also to validate other methods used in the research.

Interviews were conducted with the co-ordinators of two different Adult Education Centres in order to gain an in-depth insight into the complexity of management decisions regarding the use of ICT in Adult Education. The co-ordinators were chosen for this role as interviewees to obtain information on the administration of resources to the different education programmes: VTOS and BTEI, and the co-ordinators are also in a position to comment on the current status of the use of ICT by their staff within the Centres.

The interview format was planned as semi-structured and according to Cohen et al (2007) careful consideration of the type of questions used is paramount to the success of this type of interview (Appendix E). Direct questions were used to elicit answers when general and specific information was required and indirect questions that allowed probing of the interview participant when their responses warranted further clarification. Conversational questions were asked at the outset of the interview to put the interviewees at ease with more probing questions being asked once a rapport had been achieved. The synchronous communication obtained within a face to face interview creates a sense of trust where it is easier to elicit information from the participant (Cohen et al 2007).
The interviews were held in the co-ordinator’s office after school hours ensuring a familiar environment free from distractions for the participant. Written notes were taken throughout the interviews and both interviews were recorded and later transcribed. (Appendix F and Appendix G)

3.5.3 Observation

An observation checklist was devised to record behaviours displayed by learners and teachers when ICT is used (Appendix H). According to Cohen et al (2007) the advantage of using observation as a method of research is that the research occurs in situ and in context with the naturally occurring social situation. This method of research affords the researcher the opportunity to observe the behaviours within the case situation rather than relying on the opinion of others.

Observation within a learning situation was used to glean information on the level of motivation that learners display whilst using ICT and also whilst ICT was used as a teaching tool in a subject that is non-ICT based. The observation was structured as it was utilized to test the hypothesis that the use of ICT within the classroom had a motivational effect on the adult learners participating in the class.

A non-ICT based childcare class was observed to measure the range of motivational behaviour displayed whilst the teacher presented the lesson using a PowerPoint presentation following a discussion of the topic with notes being written on the whiteboard. The learners were then observed working in peer groups and also on their own whilst they researched a given topic using the Internet.

The behaviours that the observer noted with particular interest were those demonstrated by the learners and the teacher in this instance.

Observation of the learners and teachers within a relaxed learning environment resulted in the fact that they were unconscious of the subliminal behaviour they displayed throughout the lesson.
3.6 Analysis of Data

To ensure the validity and reliability of data gathered in research it is necessary to employ multiple techniques for data collection. These methods will provide a rich pool of data that permits the analysis of the research question from several different perspectives. This triangulation of data guarantees that the results of the research are strong, reliable and valid. Reliability of the data is the measurement of the extent to which the study may be replicated and the validity of the data is a gauge on how well a test situation measures what it set out to prove (Kirk & Miller, 1986).

Multiple strategies were used within this case study in order to certify that consistent and reliable results were obtained throughout.

Reliability and validity of the data in the questionnaires was achieved through effective targeting of the sample audience and by stressing the importance of their participation in the research. The reliability and validity of the data was further ensured through providing participants anonymity and adequate time to complete and return the questionnaires.

Following the interviews the co-ordinators was shown a transcript of their interview and afforded an opportunity to amend any details within their answers. No amendments were made to the original interview transcripts. This ensured that the answers given were considered reliable and valid by the interviewees and that they had been interpreted correctly by the researcher.

During the observation the focus was on the group as a whole rather than primarily being focused on individuals within the class and the use of a prepared checklist ensured that the test was reliable and valid.
The resulting data gathered during the research was coded and entered into a Microsoft Excel spreadsheet and analysed using the Statistical Data Analysis tools within the software. Statistical averages of mean, mode and median were calculated and the standard deviation sought.

A graphical representation of the data was carried out and charts representing the results were constructed to test the relationship between the use of ICT and its effect on the motivation of Adult Learners.
Chapter Four

Research Findings

4.1 Introduction

This chapter contains a presentation of the data generated through the research conducted on the motivational potential of ICT and its use within Adult Education. The research tools utilized to gather the data were questionnaires, interviews and also an observation checklist. The findings are presented by research question.

Nine teachers and sixty learners responded to the questionnaires and the resulting information regarding the respondents was used to construct a demographic portrayal of the teacher and learner populations within the Adult Education Centres. Table 4.1 portrays the information about teachers regarding age, gender and the programme under which they work and Table 4.2 illustrates the demographics of the learner population regarding their age, gender, the programme under which they are studying and also which awarding body will present certification to the learner.

<table>
<thead>
<tr>
<th>Programme</th>
<th>Age</th>
<th>Gender</th>
<th>Awarding Body</th>
</tr>
</thead>
<tbody>
<tr>
<td>VTOS</td>
<td>31-40</td>
<td>1 2</td>
<td>2 1</td>
</tr>
<tr>
<td></td>
<td>41-50</td>
<td>2 2</td>
<td></td>
</tr>
<tr>
<td>BTEI</td>
<td>31-40</td>
<td>3 2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>41-50</td>
<td>1 1</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1 8</td>
<td>7 2</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.1 Demographic information of teachers
Table 4.2 Demographic information of learners

<table>
<thead>
<tr>
<th>Programme</th>
<th>Age</th>
<th>Gender</th>
<th>Awarding Body</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>VTOS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>21-30</td>
<td>4</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>31-40</td>
<td>1</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>41-50</td>
<td>1</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>51+</td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>BTEI</td>
<td></td>
<td></td>
<td></td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>16-20</td>
<td>5</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>21-30</td>
<td>7</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>31-40</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>41-50</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>51+</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>45</td>
<td>40</td>
<td>20</td>
</tr>
</tbody>
</table>

4.2 Findings by Research Question

4.2.1 How do teachers use ICT in their teaching and learning activities?

The results of the research conducted are displayed by the research tool used to gather the data.

4.2.1.1 Teacher Questionnaire

The following are the results gathered using the questionnaire distributed to teachers in the Adult Education Centres that illustrate the teacher perspective of their current use of ICT within their teaching.
Q 16  Which of the following do you use in your classroom?

100% of teachers are equipped with a computer and data projector with 56% of teachers also using a digital camcorder. A television was used by 44% of teachers within their teaching and 33% state they used a scanner and DVD player in class. One teacher used an interactive whiteboard (see Fig 4.1).

![Which of the following do you use in your classroom?](Image)

**Fig 4.1 ICT equipment used by teachers in class.**

Q 17 Do you have a computer at home?

All teachers surveyed have access to a computer at home and 88% have access to the Internet from their home computer.

Q 19 Do you use a computer on a regular basis (at least once per week)?

The study results show that all teachers use a computer at least once per week to prepare lessons and to use email with 88% also using ICT in the preparation of exams or assignments as shown in Fig 4.2.
Q 21 Indicate the use which you make of ICT equipment in your teaching, if any, each week?

All the teachers within the adult education centres used ICT equipment on a weekly basis and Table 4.3 shows the extent of this use and the equipment used. The results show that ICT is used in each subject by all teachers surveyed with teachers of Computer Applications using ICT to a larger extent than non-ICT teachers.

The principle items of ICT equipment used are the data projector and laptop and Microsoft Office 2003 is the principle software used in the classrooms. Non-ICT teachers such as Childcare and Community Care used the Internet in class and the teacher of English and History uses DVD’s.
Table 4.3 Where teachers use ICT in teaching

Q 22 & 23 Is there any particular area of your teaching syllabus that you used a computer as a teaching tool?

100% of teachers used ICT in the delivery of teaching materials with 56% using the Internet for relevant research. 22% of teachers state that ICT is an invaluable resource. Figure 4.3 illustrates areas where teachers have said they use ICT to teach a specific area of their syllabus.
Fig 4.3 *Specific areas of ICT use by teachers*

The specific topics where teachers use ICT and the equipment used to teach these are outlined in Table 4.4.

<table>
<thead>
<tr>
<th>Subject</th>
<th>ICT Equipment</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geography</td>
<td>Laptop, Data Projector, Internet Access</td>
<td>Volcanic eruptions</td>
</tr>
<tr>
<td>Biology</td>
<td>Laptop, Data Projector, Internet Access</td>
<td>Anatomy of Cells</td>
</tr>
<tr>
<td>History</td>
<td>Television, DVD Player</td>
<td>World War II</td>
</tr>
<tr>
<td>English</td>
<td>Television, DVD Player</td>
<td>Shakespearean Play</td>
</tr>
<tr>
<td>Computer Applications</td>
<td>Laptop, Data Projector, Digital Camera</td>
<td>Manipulation of digital photographs in Web Design</td>
</tr>
</tbody>
</table>
4.2.1.2 Learner Questionnaire

Q 16 Indicate which items of ICT equipment your teacher(s) uses on a regular basis while teaching:

The results of this question in the learner questionnaire (see Fig 4.4) show that while 77% of the learners surveyed reported that their teacher used a computer in their teaching activities, 12% of learners indicated that the teacher used no ICT in class.

![ICT equipment used by my teacher](Fig 4.4)

**Fig 4.4** ICT equipment used by teachers as determined by learners.

Q 17 & Q 19 Do you have access to computers in the classroom on a daily basis?

The results from Q 17 found that 63% of the learners surveyed did not have access to computers in class on a daily basis and Q 19 shows that 84% of these believed that access to computers in class would benefit their learning in their subject area.
4.2.2 How does the use of ICT increase the motivation of adult learners?

4.2.2.1 Teacher Questionnaire

A Likert scale was used in Q 27 of the teacher questionnaire to determine the teachers’ level of agreement to statements relating to motivation.

“Adult learners enjoy working with computers”
There was strong agreement from 56% of teachers with 33% agreeing and 11% undecided that adult learners enjoy computers.

“Computers make learning more interesting”
ICT use in the classroom makes learning more interesting according to 67% of teachers.

“The use of computers by Adult learners promotes learning”
56% of teachers strongly agreed and 22% agree that when adult learners use computers that it promotes learning with 11% of teachers in disagreement.

“My students seem more interested when I use ICT in the classroom”
Illustrated in Fig 4.5 there was strong agreement to this statement by 22% of teachers with 67% agreeing and 11% undecided.
“Computers in the classroom encourages collaboration
67% of teachers surveyed agreed that computers encouraged collaboration between learners and 22% strongly agreed. 11% were undecided and no teacher disagreed.

4.2.2.2 Learner Questionnaire
A Likert scale was used in Q 21 of the learner questionnaire to determine the learners’ level of agreement to statements relating to motivation.

“I prefer to work on a computer unaided”
It was found that 63% of learners agree that they prefer to work on a computer unaided and 20% prefer support from a teacher or peer.

“I learn better when I discover things for myself”
45% of learners agreed and 25% strongly agreed that they learn more effectively when they discover things for themselves. 17% of learners disagreed that they learn best through self discovery with 13% being undecided.
“I am more interested in a subject when ICT is used in class”
As illustrated in Fig 4.6 42% of learners are more interested in a subject when ICT is used in class and 18% strongly agreed. 15% of learners disagreed to this statement and 2% strongly disagreed.

![I am more interested in a subject when ICT is used in class](image)

**Fig 4.6 Learners interest in subject when ICT used.**

“*I enjoy helping classmates to learn*”
72% of learners concur that they enjoy helping their classmates to learn with 10% strongly agreeing to this. 3% of learners disagreed that they enjoy helping classmates and 15% were undecided either way.

“*I prefer to learn by reading books rather than using the Internet*”
32% disagreed and 13% were in strong disagreement that they prefer to learn by reading books rather than using the Internet. 30% of learners were undecided and 25% agreed they learn using books in preference to the Internet

**4.2.2.3 Classroom Observation**
Throughout the observation a checklist was used and the results analysed. The observation checklist is included as Appendix H and the complete sheet is available on request.
Section 1  Class Organisation. How are the students working?
The findings for the observation were that during the 55 minute class learners worked alone only 18% of the time and in paired groups for 36%. The class worked as a whole for 45% of the lesson.

Section 4  Students use of Inquiry tools.
Fig 4.7 illustrates that during the observation 36% of learner searched online material through using own initiative whilst 27% were happy to use sites suggested by the teacher.

Fig 4.7 Learners using research tools during classroom observation

Section 5  Students level of technical skills.
It was noted by the researcher that at the outset of the lesson 18% of the learners required some level of assistance in using the technology. After a short time they were then confident to work alone unsupported.
4.2.2.4 Interview with co-ordinators

During the interviews both co-ordinators were asked what role they felt ICT played in motivating an adult learner. One co-ordinator felt that motivation is personal to the learner and is quoted as saying:

“Well, I don’t know if it (ICT) actually motivates. It helps in reinforcing the learning, but I feel that motivation is all to do with the individual.”

The second co-ordinator was quoted as saying that learners are motivated through ICT when:

“ICT can also be used to accommodate any learner with specific learning needs such as Dyslexia perhaps, and it allows the learners again to work at their own pace and allows them to feel in control which is good for adult learners.”

and

“It also can prepare the learner to participate in the labour market and to progress onto further study and in today’s world everything is sort of computerised and if they are familiar with ICT it is a great advantage to them when they leave the course.”

4.2.3 What are the motivating factors that facilitate learning through ICT in Adult Education?

Factors that facilitate learning in adult education were examined to determine their role in motivation of learners and teachers.

4.2.3.1 Teacher Questionnaire

Results from the Likert scale in Q 28 in the teacher questionnaire demonstrate which motivating factors of ICT assist learning.

“There is greater co-operation between my students when ICT is used in class.”

Of the teachers surveyed 55% agreed that there was greater co-operation between their students when ICT is used in class whilst 22% disagreed that this was the case.
“Use of the Internet promotes self directed learning.”
56% of teachers strongly agree and 44% agree that learners’ use of the Internet promotes self directed learning.

“Computers make teaching more interesting.”
A significant 67% of teachers strongly agree and 33% agree that computer use in the classroom makes teaching more interesting.

“Adult learners are stimulated by the use of PowerPoint presentations.”
In this study 66% of teachers were in agreement that their learners were stimulated by the use of PowerPoint presentations in class.

Q 24 & Q 26 “Do your students have access to computers in the classroom on a daily basis?
If you answered NO in Q24 do you feel that access to computers would benefit your students’ learning in your subject area?”

44% of teachers affirmed that their learners do not have daily access and all agree that access to computers would benefit the learners.

Q 30 “What specifically is the main reason that you do/do not use ICT in teaching?”
The teachers gave the following written responses to this question:

- “The main reason is for entertainment purposes, I use videos that give students another approach to the topic.”
- “The visual effect of ICT increases the students’ interest in a topic.”
- “ICT enhances the learning experience greatly.”
- “To save on repetitive note writing on a whiteboard”
- “The visual aspect of demonstrations aids students understanding and boosts confidence in IT literacy.”
- “It adds a real interest to the subjects I teach and the students respond well to it.”
4.2.3.2 Learner Questionnaire

Q 12 & Q 13 Do you have a computer at home? If you answered YES do you have access to the Internet?

From the results of Q 12 and Q 13 it was established that 87% of learners have a computer at home with 94% of these having access to the Internet at home.

The responses by the learners to the Likert scale Q 21 were:

“I learn better through pictures and video”
50% of learners believe that they learn best when teaching material is presented through pictures and video.

“ICT makes learning more interesting”
78% of learners surveyed agreed that ICT use makes learning more interesting.

“I learn better when I discover things for myself”
70% of learner agreed that they learn better when offered an opportunity for self discovery.

“I learn well when working with others”
82% agree that they learn well when they work with others within their class.

“I enjoy learning new skills on the computer”
90% agreed they enjoy learning new skills with 3% disagreeing.

4.2.3.3 Classroom Observation

Section 6 Learning Styles used.
During the classroom observation learners had the opportunity to learn visually through teacher demonstration and by hands-on computer work which amounted to 67% of their time in class. Kinaesthetic learning opportunities amounted to 73% of the time when learners had hands-on experience and learners experienced interpersonal learning for 64% when they worked in collaboration with others in the class.
4.2.3.4 Interview with co-ordinators

Results from the interviews indicate that the co-ordinators felt the ICT use in class does facilitate learning. One co-ordinator is quoted as saying:

“ICT does offer a wide variety of ways to reinforce the learning. For example the data projector, sure you can demonstrate for them, and talk them through what is going on so it is a great educational tool, a great way of teaching.”

The opinion of the other co-ordinator is that ICT can be used to accommodate a larger number of learning styles and it can be tailored to suit those learners with specific learning needs.

Access to computers was also considered by one co-ordinator to be a motivating factor that facilitates learning as they are quoted as saying:

“Definitely, although some students don’t have access to computers everyday any who have previous experience with a computer and the majority of them do have access to a computer at home are more inclined to use the computer for research especially for mainstream subjects like English and then those that are in an IT based class are keen to develop the skills learned in class when they get home.”

4.2.4 How does the motivation of learners through ICT manifest itself?

The results of this study show that the motivation of learners in adult education when ICT is used manifests itself through the presence of various indicators of motivation.

4.2.4.1 Teacher Questionnaire

The responses of the teachers to their level of agreement to statements in the Likert scale in Q 28 were:

“My students respond well to a topic when I use ICT in teaching”

There was disagreement to this statement by 11% of teachers but 56% agreed and 22% strongly agreed that students respond well to ICT.
“ICT enhances the stimulation of my students to succeed”
77% of teachers were in agreement that ICT use enhances the stimulation of learners to succeed academically.

“My students are confident in using ICT”
66% of teachers agree that their learners are confident in ICT use.

“Computers in the classroom encourage collaboration”
According to 67% of teachers surveyed computer use in the classroom encourages collaboration among learners with a further 22% strongly agreeing this is the case.

“There is greater co-operation between my students when ICT is used in class”
55% of teachers agree that there is greater co-operation between class members when ICT is used within the classroom.

4.2.4.2 Learner Questionnaire

The responses by the learners to the Likert scale Q 21 were:

“I am confident to use ICT in class”
60% of learners reported being confident to use ICT and 23% declared a lack of confidence.

“I enjoy learning new skills on the computer”
90% agreed they enjoy learning new skills with 3% disagreeing.

4.2.4.3 Classroom Observation

Section 8 Note any off-task or inappropriate behaviour
At the outset of the class it was noted by the researcher that the attention of 5% of the learners was not fully engaged whilst the teacher used “Chalk and Talk” but once the teacher transferred to using a digital media to deliver the lesson these learners were fully engaged and demonstrated interest in the topic.
4.2.4.4 Interview with co-ordinators

During interviews with the co-ordinators, indicators of motivation in adult learners were identified with a distinct conformity in both views. It was reported by both co-ordinators that learners return to education for many diverse reasons such as meeting other people, to gain skills to help their children, to further their education or “to get out of a rut”.

Indicators of motivation observed by one co-ordinator are when:

“If they are good time keepers and then too when you are delivering something if they are asking relevant questions it shows that they are interested and that they are taking stuff in. The attendance would generally be good and then a lot of those that are motivated, say your teaching something new today they will go and practice it at home and you know they are putting in that little bit of extra effort.”

One co-ordinator further maintained that even though adult learners may return to education for various reasons they all need to be motivated to complete a course of study and this co-ordinator stated that the fact that 75% of adult learners in their centre progress to third level education or to employment is indicative that learners are motivated to succeed. External factors such as geographic location of the centre and availability of financial support were determined by a co-ordinator as influential in whether learners choose to progress to third level or not.

Another indicator of motivation according to one co-ordinator is meeting assessment deadlines and achievement of assessment results which this co-ordinator said were “generally, consistently very good” among adult learners in their centre.
Chapter Five

Discussion of Research Findings

5.1 Introduction

This study has investigated the motivational potential of the use of ICT in adult education through analysis of the current use of ICT and its affect on the motivation of adult learners. This chapter sets out to explore the issues raised within the research in the context of the literature review. The discussion is carried out by research question.

5.2 Discussion by Research Question

5.2.1 How do teachers use ICT in their teaching and learning activities?

The ultimate objective for every teacher is to promote a classroom environment that is conducive to learning and to engage their learners in order that they may readily partake in the learning process. The teachers within this study have shown that they are providing such an environment and are using ICT hardware and software appropriately and in context to their subject area. This practice is in keeping with the findings of BECTA (2009) which states that appropriate use of ICT in context is supportive of learners needs and in turn will initiate greater collaboration between learners.

From the very fact that all teachers were equipped with a computer and data projector it can be inferred that they will use these when teaching although this use may not be on a continuous basis. Teachers of non-ICT subjects have shown that when they deem ICT use fitting to the topic being taught they are open to using alternative means of program/subject delivery deviating from traditional
methods of teaching and all teachers surveyed have indicated that they use a home computer and the Internet in preparing teaching material. By using digital sources of information retrieval the teachers can then convey to their learners the foundation of the information allowing the learners to obtain further information for themselves. Through using different teaching techniques these teachers are offering their learners a more interesting and motivating way to digest subjects that may be considered unpalatable (NCTE, 2001).

Teachers of non-ICT based subjects have not rejected the use of ICT as an option in their teaching but rather see it as complementary to their own skills as a teacher which is in agreement with studies by Pucel and Stertz (2005) stating that technology is the tool to facilitate learning but that principal factors of success in learning are the dedication and expertise of the teacher, the willingness of the students to receive the information and also their openness to change.

Evidently, however all teachers realised the benefit of ICT in development of what Younie (2001) referred to as a “cognitively flexible literacy” where learners develop higher order thinking skills, the ability to assimilate information through research and the construction of original concepts towards exploratory learning. The teachers also reported that ICT offered them enhanced resources supporting their teaching through presentation of complex topics by use of a television and DVD or through use of internet access to interactive websites in class. These resources were considered “invaluable” by teachers of non-ICT subjects such as History, Geography or Biology as there are dense areas within these subjects which according to the teachers are best presented to the learners through use of ICT providing a more visual approach to the subject matter. Through using multimedia to teach complex topics the teachers are adopting an approach outlined by Sinclair et al (2003) as key to promoting the development of higher order cognitive skills leading to greater levels of knowledge retention.

ICT, for all teachers surveyed is regarded as a teaching tool but teachers of non-ICT based subjects use it periodically when it is deemed necessary to teach a particular area of the curriculum. Therefore it can be deduced that all teachers surveyed are supporting the particular and varied learning styles of the learners as
endorsed by Gardner (1993) while accommodating those learners that learn best aurally, visually or kinaesthetically. By offering learners alternative methods of subject delivery to reinforce the topic, learners can then tailor the learning to suit their own particular style resulting in ownership of knowledge. When the teachers provide an important extrinsic motivating factor such as accommodation of learner needs it leads to the development of intrinsically motivating self realization in their learners.

The learners on the other hand had a very different perspective to ICT use in their classrooms. Whilst the majority of learners were aware and perceptive of the teachers’ use of ICT in the classroom a small minority of them maintained that the teacher used no ICT equipment in class.

The disparity between teacher and learner perception of current ICT use may be attributed to some learners having no access to a computer suite as their subject is non-ICT based. A large majority of these learners felt that access to computers would benefit their studies in their subject area. Also the timing of the research may have a bearing on the learners’ perception of ICT use as at the time of the survey being conducted many learners were revising for exams which means that teachers will have already covered all course material and may not currently be presenting material in a digital format.

Adult learners need to understand the relevance of the use of ICT within their subject and also understand the impact that it will have on their own personal circumstances therefore to maximise the motivational impact of ICT it needs to be subject specific and embedded in teaching and learning. This concurs with the results of the study by Passey et al (2004) which determines that ICT is effective in learning when the learners can understand the importance of its use and focus on where it supports their learning.

In conclusion this study indicates that the current use of ICT in adult education centres has established ICT as an invaluable tool for teaching offering teachers an alternative means of program delivery which stimulates the interest of the learners. However the use of ICT needs to be in context to the subject being
taught or the motivating effect of ICT will be lost if learners cannot assimilate its use in relation to the topic being taught and how it can be of benefit to their studies. It is also indicative that ICT makes teaching more interesting for teachers affording the teacher the opportunity to accommodate a greater number of learning styles. Access, by learners to computers on a regular basis has been determined as an important factor in this study as in order to obtain the full benefit of ICT in their subject area learners require the skills necessary for self directed study.

5.2.2 How does the use of ICT increase the motivation of adult learners?

A number of issues relating to motivation were considered when investigating how the use of ICT increases the motivation of adult learners. Through outlining the current level of ICT use by teachers in adult education it was possible to then look at how teachers and learners are motivated through this.

Many adult learners returning to education may not have encountered technology within the classroom in their previous educational experience, and the concept of learning in a new way through the use of ICT is appealing, and consequently motivates their interest in a subject. Evidently the use of ICT is motivating to the learners within the adult education centres as there were strong indicators of agreement from both teachers and learners that ICT adds interest to lessons and teachers have observed that adult learners enjoy working with computers. From the demographic information gathered during the survey, 47% of learners in the centres are aged between 30 to 50+ years of age indicating that it is improbable they would have experienced high levels of access to ICT in their earlier education having not had experience of the IT2000 initiative to integrate technology to Irish schools (NCTE, 2001) therefore learning in later life with new technology is a challenge for them that many find interesting and stimulating.

A small minority of teachers were undecided if ICT had any bearing on the interest level of learners however the majority of teachers believe that learners are
more interested in a topic if ICT was used in teaching. This concurs with the studies of Ala-Mutka et al. (2008) who determined that through studies with older adults that the use of ICT in a flexible learning environment as in the adult education centres has the potential to allow an easier integration by older adults into learning with technology and allows a higher level of peer learning through the sharing of experiences with younger members of the class group.

Maintaining learners’ interest in the subject being taught is a fundamental role for the teacher as when interest is lost the essence of the lesson is lost. Interest levels within learners play an important part in the development of intrinsic motivation therefore when teachers heighten a learner’s interest in a subject they will therefore be intrinsically motivated.

Learners indicated that they had particular preferences to their learning styles specifying that some learn better through visual material whilst others learn better through aurally following the teachers’ instruction which is consistent with Gardner (1993) that learning is more effective if all intelligences are satisfied through multimedia.

Provision of alternative means of programme delivery is a break from the norm for both teacher and learner therefore due to the multimedia characteristics of ICT there is enhanced interest for both teachers and learners for the use of ICT in class. 70% of learners maintained that they learn best when allowed the chance for self directed or exploratory learning and this is evident in adult education when a teacher motivates a learner through introduction of a topic using ICT and affords the learner an opportunity to explore the subject further themselves. This technique used within the classroom is effective in maintaining learner interest and motivation and produces a cycle of learning as determined by Pear and Crone-Todd (2002) who believe that when a learner evaluates the effectiveness of their actions in problems solving they gain confidence in their own competence which in turn motivates them towards self directed learning.

Teachers in the centres indicated that when learners use computers in class there are increased levels of collaboration between learners and the teachers strive to
encourage collaborative learning through designing learning situations that promote cooperation and interaction between learners and this technique supports the studies of Doherty (1998). Adult learners have many life experiences which they may share with their peer group once they experience a sense of inclusion within the group. The majority of learners also indicated that they learned more effectively when they had the opportunity to work with or to help others within their group.

Whilst the majority of learners are happy to work unaided on a computer it was revealed through the questionnaires that some adult learners do not like to work alone on the computer requiring help and support from either a teacher or a member of the class. This fact was also very apparent during observation of a non-ICT based class using ICT. The learners’ unfamiliarity of computers was obvious and they were uncomfortable being out of their comfort zone, however once the initial fear subsided and they were conscious of the support at hand from their peers they were significantly happier. Situations within the class where collaborative learning occurs means that learners can build knowledge upon their life experiences allowing them to develop, take control and responsibility of their learning. This style of learning by adults is indicative of constructivist learning as outlined by Piaget (1952) and Papert (1980).

The fact that teachers observed high levels of collaboration and socialisation within the learners and also that learners reported they prefer teacher support whilst using ICT is indicative of Herzberg’s motivation theory. This affirms interpersonal relations with teachers and peers act as a hygiene factor and the achievement of success in academic work as a motivation factor. Building self actualisation through collaboration with peers is effective in establishing intrinsic motivation in learners.

Motivation of adult learners through the use of ICT in adult education centres occurs through extrinsic and intrinsic factors. A major extrinsic factor is the perceptiveness of the teachers to the learning styles of their students and the effective tailoring of teaching material and equipment used to accommodate the diverse learning needs. When a learners needs are met they are encouraged to
participate in self directed learning which according to Isen & Reeve (2005) occurs until an intrinsic motivating factor of achievement of success is experienced. The co-ordinators interviewed were insightful to this fact that the use of ICT, although useful as a learning tool is not solely responsible for motivating learners but leads to the fulfilment of internal goals which in turn motivates them to further academic achievement. Intrinsic motivation according to one co-ordinator cannot be solely attributed to ICT use in the classroom but rather is an internal force that impels a learner to achieve. As has already been established ICT use acts as an effective reinforcing tool for teaching and learning but this co-ordinator does not believe that it motivates learners any more effectively than any other teaching tool.

In conclusion this study indicates that the motivation of adult learners through the use of ICT is based on the existence of external and internal contributing factors that lead to intrinsic motivation. Adult learners are exposed to many extrinsic motivating factors as they progress through life and they learn to place value on such factors as academic achievement or promotion in work. They then become emotionally conditioned to develop intrinsic motivation such as the internal drive for more achievement. Within the adult education centres the extrinsic motivating factors provided through the use of ICT are the alternative teaching methods incorporating interest to teaching and learning which in turn leads to heightened learner interest levels. Another extrinsic factor is the provision by teachers of the facility for learners to develop higher order learning skills through self directed learning which in turn leads to intrinsic motivation and the development of effective learning strategies.

5.2.3 What are the motivating factors that facilitate learning through ICT in Adult Education?

There are a number of motivating factors of ICT that facilitate learning in adult education. The most significant of these is the level of co-operation between learners which the teachers observe when ICT is used in teaching. Among the adult learners surveyed whose ages range from 16 years to 51+ years there is a
majority group in the 16 - 30 age group. The younger learners may have a level of technological experience that can be shared with the older age group while the older learners have life experiences and knowledge that they can impart to a younger less experienced class member. These learners are displaying characteristics of Experiential Learning which Lindeman (1961) maintained takes place when adult learners place an intrinsic value on their own experience and through conveying this knowledge to peers in a collaborative manner they build upon the knowledge taking ownership of new knowledge constructed.

By taking ownership of knowledge through experiential learning adult learners develop self directed study skills which the teachers in the adult education centres maintain their learners acquire through use of the Internet. Even though the majority of learners do not have access to computers in class, a high proportion have a home computer with Internet access so the opportunity to develop these skills is present in all the centres surveyed. It was also established from the learner responses that a large majority of learners, 70%, also believed that they learned more effectively when afforded an opportunity for self-directed learning.

ICT use in the classroom offers greater flexibility to teachers for delivery of teaching material and therefore many teachers agreed that it adds to their interest whilst teaching. On enquiring of the teachers on the main reason that they do/do not use ICT in their teaching, the resulting answers pointed to the teachers understanding of the benefits of using ICT in teaching in addition to traditional methods of program delivery. The principle reason that teachers use ICT in their teaching is to provide a visual effect or aspect to the topic being taught as they believe that this increases the interest levels of learners. One teacher outlined the main reason that they use ICT is that through demonstrations using a data projector the students gain a better understanding of the subject and it boosts their confidence in IT literacy. By providing learners with a visual demonstration in this manner they can then try to imitate the teachers’ movements with computer hardware or in using software applications. Another benefit outlined by the teachers in using ICT in the classroom was that lessons could be prepared and then edited or tailored to address the needs of different cohorts of learners. The non-ICT teachers used ICT to enhance subjects that may be considered by some to
be ‘uninspiring’ through the use of videos to give learners a new approach to a

This motivational potential of ICT is apparent in the results from the classroom
observation where the learners were presented with a lesson that offered them an
opportunity to learn using a variety of media which accommodated the varying
learning style of the learners. Through use of ICT in class the teachers are
addressing the various learning styles of their learners as 50% of the learners
prefer to learn through a visual means and also 78% of learners also reiterate the
teachers’ opinion that ICT use in class makes learning more interesting. Therefore the teachers of adult learners are very conscious of the advantages of
using ICT and the motivational potential of its use.

The effectiveness of the practice of using ICT in the classroom relies upon the
aptitude of the teacher to tailor the use of ICT equipment and software to
complement the needs of the learners which confirms the results of the study by
Passey et al (2004). Although their study in 2004 was carried out in primary and
secondary schools the implications of a teacher’s appropriate ICT use has a
similar effect in the motivation of learners regardless of their age. Children will
be equally as disillusioned by use of ICT out of context in the classroom as adults
are.

The interviews with the co-ordinators demonstrate that they do believe that the
current use by the teachers in the adult education centres does facilitate learning
and both co-ordinators concur that ICT is a ‘great way of teaching’ and it meets
the learners’ needs. However it has been found that a large number of learners
have no daily access to computers in class although they do have access from
home. According to one co-ordinator those learners that have access from home
will be more inclined to use ICT to support their studies at home even if they have
no access in class and this does not make these learners disadvantaged within
adult education. However, the teachers are of the opinion that a degree of access
within the classroom would benefit the learners in their subject area. When an
adult learner has some degree of control over their learning which they can have if
their learning style is being accommodated through access to computers they are motivated to continue in the learning activity therefore when teachers tailor the use of ICT in a learning situation to suit as many learning styles as possible an increased number of learners are intrinsically motivated.

In conclusion, the motivating factors that facilitate learning through the use of ICT within adult education are the ability of adult learners to utilise their past experiences as a baseline on which to build further learning and to develop skills to learn experientially. Through interaction within their peer group they can acquire socialisation skills which aid in the development of internal motivating goals. One important motivating factor of ICT use in adult education outlined by both learners and teachers is the cultivation of self directed learning skills through which learners become intrinsically motivated. Self directed learning is achieved according to teachers and learners through the use of self discovery study using the Internet. An important factor in motivating learners through ICT is access to computers on a regular basis which is not always available to some students due to their subject area not lending itself to constant access to computers due to curriculum and timetabling restrictions.

5.2.4 How does the motivation of learners through ICT manifest itself?

Through observation of their learners on a daily basis the teachers begin to recognise factors within their teaching methods that motivate learners within the class. One principle indicator of motivation that teachers observed is the response of the learners’ to a topic when ICT is used within teaching. The responsiveness of adult learners to the use of ICT in education begins a continuous cycle of learning which according to Bloom’s Taxonomy (1956) satisfies three domains of teaching objectives.

When a learner actively participates within the learning process they are stimulated and therefore place a value on the knowledge being undertaken. This affords them the skills to formulate ideas which they can compare with previous
knowledge and through developing their own schema relate the old and new knowledge. Higher levels of recall and the ability to develop intellectual abilities and skills which learners can utilise in conjunction with new or existing physical and motor skills are all essential in the stimulation of learners to succeed academically.

A large majority of teachers have indicated that ICT enhances the stimulation of adult learners to achieve and this occurs through this cycle of learning. Further indications from teachers that ICT motivates their learners come from the 66% of teachers who believe that their learners are confident using ICT. This is further reiterated by the responses of 90% of learners who maintain they enjoy learning new skills on the computer which subsequently results in the majority of learners indicating that they are confident in using ICT. When learners are encouraged to learn through actively being involved in the learning process they retain a larger amount of knowledge, which according to Long & Ehrmann (2005) is achieved through Edgar Dale’s Cone of Experiential Learning.

Increased levels of learners’ confidence in ICT skills is an indicator of motivation which is observed by the majority of teachers resulting from the collaboration and co-operation of learners within the classroom. The initial reticence towards new technology often experienced by adult learners when returning to education can be overcome through interaction and support from a teacher or a peer. This collaborative learning according to Parente et al (2007) provide learners with a sense of purpose, imparts a sense of respect among learners and aids them in overcoming any hesitance they have of ICT use.

The researcher’s observation in the non-ICT classroom of behaviour modification in some learners once teaching material was delivered in a digital format indicates that these learners’ learning styles were not being satisfied when the teacher used “Chalk and Talk”. The alteration in behaviour to being more attentive and interested indicate that learners are motivated when their needs were met. The transition from the familiar teaching method used by the teacher stimulated the interest of the learners for the topic resulting in greater reinforcement of the subject.
One particular reason for adults returning to education was highlighted by a co-ordinator as the desire for socialisation and to interact with a peer group and results from both the teacher and learner questionnaire also indicate that a sense of belonging to a group through socialization is an important factor in their motivation to partake in study. Further to this, the co-ordinators have indicated that the perseverance and resolve necessary to complete assignments on time and to a high standard are indicative of a learner’s motivation to succeed. The standard of results from assessment of the learners in the centres studied have been reported by the co-ordinators as being consistently very good indicating intrinsic motivation within the learners is high. Moreover, the high number of learners completing courses in adult education and progressing to further study either to third level or within the further education sector are also indicative of motivation of learners to achieve academically.

In conclusion, the manifestation of motivation of learners through ICT is observable through a number of indicators in the learners’ behaviour and through their achievements. Teachers observe alterations in learner behaviour when the learner is stimulated through delivery of teaching material that satisfies their individual learning needs. Increased confidence levels in ICT use demonstrate that learners are motivated to use ICT in learning but this increase in confidence may require a learner to be supported through teacher and peer support until the learner reaches a level where they are self-assured to work unaided.

5.3 Summary of Answers to Research Questions

This study indicates that within the Adult Education Centres the current use of ICT offers teachers an invaluable teaching resource that enhances the appeal of subjects for the learners but this is only achievable when used in context with the subject area. This study also indicates that ICT offers teachers alterative and stimulating means of program delivery, nevertheless in order for teacher and learner alike to fully benefit from ICT within their subject area a greater level of access to ICT for non-ICT subjects needs to be obtained to facilitate self directed study.
Within the Adult Education Centres surveyed the use of ICT provides learners with a stimulating approach to learning facilitating the development of self directed and exploratory learning skills. The satisfaction of extrinsic motivation needs of maintenance of interest and stimulation lead to the fulfilment of internal needs of self actualisation through the development of higher order earning skills.

The ethos of Adult Education is the support of adult learners in the cultivation of socialisation skills that will empower them to fully participate in today’s society. This study has shown that through the use of ICT learners are afforded an opportunity to develop socialisation skills and also to build upon their past experiences and to learn experientially. Access to ICT is a factor in the success of the development of these skills and due to restrictions in timetabling and curriculum some learners were at a disadvantage.

The obvious benefits of ICT use on the motivation of learners was observable through behaviour exhibited by the learners. Increased levels of learner interest were noted when ICT was used in class indicating that the use of ICT satisfies the extrinsic motivation needs of the learner. An increase in the confidence levels of learners was also observed suggesting that their intrinsic motivation is fulfilled; nevertheless some learners required some level of support to reach a stage of independence.
Chapter Six

Conclusion

6.1 Introduction

Motivation is a significant variable in adult education and for many learners returning to education following varied life experiences the motivation to take the initial step forward is an indicator of an internal compelling force. The motivating factors that urge a young adult to return to education and to complete a course of study may be very different from those of an older learner. In today’s society there is a need within the employment market and in academia for individuals to possess good levels of computer literacy in order to become competitive in their chosen field. For individuals to be self reliant and function within society it is increasingly important that they develop skills in the use of information and communication technology (ICT) therefore within the adult education sector teachers are attempting to incorporate the use of ICT into their teaching.

It is easy to presume that when adult learners return to education they are internally motivated and that, teachers, the subject matter being taught or the manner of delivery has little or no influence on motivation, however this study has attempted to determine the potential influence of the use of ICT in the motivation of adult learners.

6.2 The use of ICT by teachers in Adult Education.

It was established through the research conducted that the manner in which the teachers surveyed use ICT in their teaching has ascertained that ICT is an invaluable teaching resource within adult education. The use of ICT by the teachers in the adult education centres, in context with the subject being taught and in an appropriate manner is stimulating the interest of the learners whilst also appealing to the teachers as an alternative means of program delivery. The motivational potential of ICT use is higher when the learners can attach relevance and value to the outcome of the learning occurring. Teachers play an important
role in the motivation of learners through ICT as they recognise and address the personal and andragogical needs of individual learners through tailoring the teaching material and its delivery through ICT to suit the various needs of their particular cohort. The outcome of this aspect of the study reflects the results of studies carried out by BECTA (2009) where it was determined that the use of ICT affords learners a greater number of learning opportunities as well as allowing the teacher the opportunity to be innovative in their teaching.

This study revealed that the level of use of ICT by the teachers in the adult education centres is determined by the subjects being taught with a higher level of use in IT based subjects. There exists among the teachers a desire to incorporate ICT into their teaching activities but restrictions in access to IT classrooms for non-ICT based subjects has meant that some learners only experience ICT use in the classroom when the teacher incorporates it into their teaching. Non-ICT teachers although demonstrating a level of incorporation of ICT into teaching should be prepared for a more innovative approach and not be reliant on PowerPoint presentations to satisfy all their learners needs.

6.3 The effect of ICT use on the motivation of adult learners.

A number of external and internal contributing factors leading to motivation of the adult learners were found to be in existence in the adult education centres. Adults, by their very nature have many internal motivating factors that spur them on to achieve and many external factors such as the need for recognition of achievement. Achievement through intrinsic motivation results in an external stimulus of reward or recognition of achievement.

For many adults there is a deeper stimulus present that internally motivates and this comes from a need to develop a sense of self actualisation through higher order learning skills. Teachers of adult learners, by adding interest to lessons through the use of ICT are providing their learners with the stimuli to develop these skills through research and development of study skills. This cycle of motivation occurs through teachers in adult education providing learners with extrinsic motivating factors of alternative and interesting methods of teaching
which leads to heightened interest in the subjects being taught. The teachers have observed higher levels of interest within the learners for subjects when ICT is used leading to a yearning within learners for further exploratory learning. This factor further proves this study corresponds with the findings of Passey et al (2004) that ICT use in the classroom motivates learners when the use of a range of ICT resources reflect the subject area and allow the learner to further explore the topics portrayed by the teacher and develop effective learning strategies.

6.4 The motivating factors that facilitate learning through ICT in Adult Education.

Adult learners enter an educational program with an internal urge to apply previous experiences to any new knowledge acquired and they are constantly aware of how effectively they can marry the old and new knowledge together. In circumstances where learners can apply this schema to learning that they deem effective to their lives and where they gain positive feedback, either through internal reassurance or from external forces such as a teacher or peer group the learner will be intrinsically motivated to continue learning. Their previous experiences act as a baseline for further learning on which they can build a proficiency in new skills leading to development of further goals.

Within the ethos of adult education is the formulation of an environment where adult learners develop a sense of inclusion within a positive social climate where there is mutual respect between peers and the teacher. The acquisition of socialisation skills is an important motivating factor among adult learners which leads to the development of internal and external motivating goals. Through these socialisation skills learners within adult education feel confident to cultivate self directed learning skills which direct them to expand their understanding of a subject beyond the learning at hand. The Internet is an important tool in allowing learners to develop these self discovery skills opening vast areas of knowledge to them aimed specifically at different subject areas. Non-ICT based learners would benefit greatly from access to resources such as the ‘Scoilnet’ portal for education which offers subject specific online resources aimed at those learners studying for Department of Education exams such as Junior and Leaving Certificate.
6.5 The manifestation of the motivation of learners through ICT in Adult Education

There are a number of observable indicators of the motivation of adult learners through the use of ICT in the adult education centres surveyed. Teachers have reported alterations in learner behaviour when the learners’ interest is fuelled through stimuli provided by the multimedia dimensions provided by ICT. Learners have reported that they learn more effectively when they have the opportunity to explore further than the boundaries of the learning being presented by the teacher. Exploratory learning therefore allows learners to pursue challenging aspects of their subjects and in turn they develop a pride in the process of their learning resulting in observable motivation.

It would appear that the increasing levels of competence in ICT reported by learners in the adult education centres has raised the confidence levels of the learners and resulted in intrinsic motivational support for the efforts required to become further competent. Moreover the high number of learners concluding a course of study and progressing to further study is an indicator that the level of motivation within adults in this sector is being met through the teaching provided. Increased competence further sustains confidence which supports and motivates learners to go beyond the boundaries of their internal goals. The adult learners within the adult education centres surveyed are mastering computer skills which according to Younie (2001) aids them in developing a sense of social cohesion and connection with the wider community and ensures that they are developing a ‘cognitive flexible literacy’ and do not become victims of the ‘digital divide’.

6.6 Recommendations arising from the research

- A review of the technology resources within the adult education sector needs to be carried out to ensure equal access to ICT technology for all learners.
- Further training for teachers in effective incorporation of ICT into teaching strategies is required to fully utilise the equipment present in the classrooms.
• Supplementary curriculum resources to support teachers and learners in ICT use in all subjects but especially non-ICT based subjects where there is an apparent deficit.
• As socialisation is important in adult education in aiding the learners’ development as a self directed learner, teachers should incorporate a high level of collaborative and peer work in the classroom.
• All learners should have some level of access to computers with Internet access in the classroom to facilitate research and study within their subject area.
• Further opportunities and support from teachers for exploratory learning for adult learners within the classroom.

6.7 Limitations of the study

This study was carried out on three Adult Education centres which form a small sample of the overall adult education population and is not a comparative study of individual centres or of the programs being run in these centres. Nevertheless the rationale behind the study was to analyse the current use of ICT by teachers in these centres and how its use had the potential to effect the motivation of the adult learners. The findings of this study are limited by the number of respondents to the research methodology tools and also by the level of honesty in the answers given by the respondents.

6.8 Further Research

This study dealt with teachers, learners and centre co-ordinators within three Adult Education Centres. In order to gain a fuller, more in-depth view of the adult education sector it would be necessary to extend the study to include a wider learner, teacher and co-ordinator population.

Questioning of past learners of the adult education services would provide a fuller picture of the motivational potential of ICT and reveal the influence that the use of ICT had in their learning experience and if it had any or no effect on their
motivation to progress. Past learners could also provide an insight into the change in teaching practices that have occurred in the adult education sector.

Further study into this area could take into consideration more detailed current learner achievement records outlining analysis into attendance and examination and assessment results as these were found to be indicators of a learner’s motivation to continue in education.
Bibliography


Keller, J.M. (1999) 'Using the ARCS Motivational Process in Computer-Based Instruction and Distance Education', *New Directions for Teaching & Learning* (78), 39.


Pucel, D. and Stertz, T (2005) ‘Effectiveness of and Student Satisfaction with Web-Based Compared to Traditional In-service Teacher Education Courses’, *Journal Of Industrial Teacher Education*, 42(1).


Appendices
Appendix A

Letter to the Adult Education Officer

20 February 2010

Dear [Name]

I am currently undertaking a Masters in Digital Media Development for Education through research and have been advised by University of Limerick to seek permission to undertake this research within the Adult Education Centres in the North West of Ireland.

The research is to determine the motivating factors of the use of ICT within Adult Education and as a basis for this research I would like to have your permission to distribute questionnaires to students and staff within the centres in the North West.

Thank you.

Kind Regards

Patricia Mc Laughlin
Appendix B

Letter to participating Teachers

Dear Colleagues,

To fulfill the requirements for the Thesis component of a Masters Degree in Digital Media Development for Education I am researching the Motivational Potential of the use of Information and Communication Technology (ICT) on Adult Learners in Adult Education Centres in the North West of Ireland. I am therefore seeking your cooperation in partaking in this research as I am required to collect data from a number of teachers of both mainstream subjects and ICT based subjects on how they use ICT in their teaching.

I am aware of the time constraints placed upon teachers but I trust you will grant me a few minutes to complete the following questionnaire.

Any information given will be treated in confidence and there will be no means of identification of either you or your Centre within my final Thesis report.

Thank you for your cooperation.

____________________
Patricia Mc Laughlin
Appendix C

Letter to participating Adult Learners

Dear Learner,

To fulfill the requirements for the Thesis component of a Masters Degree in Digital Media Development for Education I am researching the Motivational Potential of the use of Information and Communication Technology (ICT) on Adult Learners in the North West of Ireland. I am therefore seeking your cooperation in partaking in this research as I am required to collect data from a number of Adult learners of both mainstream subjects and ICT based subjects on their experiences of the use of ICT in the classroom.

I am aware of the demands on your time in class but I trust you will grant me a few minutes to complete the following questionnaire.

Any information given will be treated in confidence and there will be no means of identification of you within my final Thesis report.

Thank you for your cooperation.

_____________________________
Patricia Mc Laughlin
Appendix D

Teacher Questionnaire

Part A: Work Environment

1. Which programme are you employed under? Please select one.

<table>
<thead>
<tr>
<th>BTEI</th>
<th>VTOS</th>
</tr>
</thead>
</table>

2. What is the number of Adult Learners in your class?

<table>
<thead>
<tr>
<th>&lt;10</th>
<th>11 – 15</th>
<th>16-20</th>
<th>&gt;20</th>
</tr>
</thead>
</table>

3. Which accreditation do your students achieve?

<table>
<thead>
<tr>
<th>FETAC Award</th>
<th>Leaving Certificate</th>
<th>Junior Certificate</th>
</tr>
</thead>
</table>

4. Which subject(s) do you teach? Tick all that apply.

- Biology
- Business Studies
- Childcare
- Computer Applications
- English
- Geography
- History
- Mathematics
- Other

If other please specify the subject(s) taught.

________________________________________________________________________

________________________________________________________________________

5. Do you have Internet access in the classroom?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

6. Do you have access to a computer in the staffroom?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>
Part B:

About you

7. Gender
   - Male
   - Female

8. Age
   - 25 – 30
   - 31- 40
   - 41-50
   - 51+

9. How many years have you been teaching?
   - 1 -5
   - 6 – 12
   - 13 – 20
   - 20+

10. What is your principle Qualification (Degree)

   __________________________________________

11. Do you have any additional qualifications?

   __________________________________________
   __________________________________________

12. Do you have any qualifications in the use of ICT?

   __________________________________________
You and Computers

13. Do you have any formal training in ICT?

YES  NO

14. If you answered YES above please specify

Course __________________________ Qualification ___________________________

15. If you answered NO above do you feel training in ICT would benefit your teaching?

YES  NO

16. Which of the following do you use in your classroom?

- Computer
- Data Projector
- Digital Camcorder
- Digital Camera
- DVD Player
- Interactive Whiteboard
- Scanner
- Television

17. Do you have a computer at home?

YES  NO

18. If you answered YES, do you have access to the Internet?

YES  NO

19. Do you use a computer on a regular basis (at least once per week) to:

- Prepare Lessons
- Prepare Exams/Assignments
- Maintain student records
- Send/Receive email

Yes  No
20. Indicate your level of competence or expertise in using the following software applications:

<table>
<thead>
<tr>
<th>Software Application</th>
<th>Very Good</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
<th>No Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word Processing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spreadsheets</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Database</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presentation - (Powerpoint)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desktop Publishing – (Publisher)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internet - (Explorer, Netscape)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Web Authoring - (Dreamweaver)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Programming - (Java, Visual Basic)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paint</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAGE Line 50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAGE Quickpay</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other: _________________________________</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

21. Indicate the use which you make of computers in your teaching, if any, each week:

<table>
<thead>
<tr>
<th>Class Group covered</th>
<th>Subject</th>
<th>Context (software and equipment used, topic)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

22. Is there any particular area of your teaching syllabus that you have used a computer or ICT equipment to teach a specific topic:

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>

23. If you answered YES above, specify why you used computers and how useful was the computer as a teaching tool.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
Part D:

Your Students and Computers

25. Do your students have access to computers in the classroom on a daily basis?

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>

26. If you answered YES above please specify

Subject Area ______________________

27. If you answered NO above do you feel that access to computers would benefit your students’ learning in your subject area.

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>

28. Indicate your level of agreement with the following statements:

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult learners enjoy working with computers</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>The use of computers by Adult learners promotes learning</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Computers make learning more interesting.</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Computers make teaching more interesting.</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Adult learners are stimulated by the use of Powerpoint presentations</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Use of the Internet promotes self directed learning</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Adult learners are afraid of using</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>
computers
Adult learners prefer to learn on a computer unaided.
Computers in the classroom encourage collaboration.
Computers frustrate Adult learners

29 Indicate your level of agreement with the following statements:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am confident using ICT as a teaching tool</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I do not have enough access to computers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My students seem more interested when I use ICT in the classroom</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I prefer not to use ICT in the classroom</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It takes too long to prepare Powerpoint presentations for class</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using Internet in class is a waste of students’ time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My students are confident in using ICT.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My students respond well to a topic when I use ICT in teaching.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is greater cooperation between my students when ICT is used in class.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ICT enhances the stimulation of my students to succeed.

30. What specifically is the main reason that you do/do not use ICT in your teaching?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Thank you very much for your time and consideration in completing this Questionnaire.
Appendix E

**Learner Questionnaire**

**Part A:**

**Classroom Environment**

1. Which programme are you studying under?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BTEI</td>
<td>VTOS</td>
</tr>
</tbody>
</table>

2. Which award are you studying for?

<table>
<thead>
<tr>
<th>FETAC Award</th>
<th>Leaving Certificate</th>
<th>Junior Certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Which subject(s) are you studying? Tick all that apply.

- Biology   
- Business Studies 
- Childcare  
- Computer Applications  
- English  
- Geography  
- History  
- Mathematics 
- Other

If other please specify the subject(s) you are studying.

________________________________________________________________________
________________________________________________________________________

4. Do you have Internet access in the classroom?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

5. Do you have access to a computer in the classroom?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>
Part B:

About you

6. Gender

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
</table>

7. Age

<table>
<thead>
<tr>
<th>16-20</th>
<th>21-30</th>
<th>31-40</th>
<th>41-50</th>
<th>51+</th>
</tr>
</thead>
</table>

8. Do you have any previous training in ICT?

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>

9. If you answered YES above please specify

Course________________________ Qualification________________________

10. If you answered NO above do you feel training in ICT would benefit your learning?

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>

11. Which of the following are present in your classroom?

- Computer
- Data Projector
- Digital Camcorder
- Digital Camera
- DVD Player
- Interactive Whiteboard
- Scanner
- Television

12. Do you have a computer at home?

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>

13. If you answered YES, do you have access to the Internet?

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>
14. Do you use a computer on a regular basis (at least once per week) to:

- Research course material  Yes  No
- Type course work/assignments  Yes  No
- Send/Receive email  Yes  No

15. Indicate your level of skills in using the following computer software programs:

<table>
<thead>
<tr>
<th>Software</th>
<th>Very Good</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
<th>No Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word Processing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spreadsheets</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Database</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presentation - (Powerpoint)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desktop Publishing – (Publisher)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internet - (Explorer, Netscape)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Web Authoring - (Dreamweaver)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paint</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAGE Line 50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAGE Quickpay</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other:_____________________</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

16. Indicate which of the following items of ICT equipment your teacher(s) uses on a regular basis while teaching:

- Computer
- Data Projector
- Digital Camcorder
- Digital Camera
- DVD Player
- Interactive Whiteboard
- Scanner
- Television
Part C:

You and Computers

17. Do you have access to computers in the classroom on a daily basis?

YES  NO

18. If you answered YES above please specify

Subject Area ________________________

19. If you answered NO above do you feel that access to computers would benefit learning in your subject area.

YES  NO

21. Indicate your level of agreement with the following statements.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I enjoy working with computers in class/home</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I prefer to learn by reading books rather than using the Internet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICT makes learning more interesting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I enjoy helping classmates to learn</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I learn better when I discover things for myself</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I prefer the teacher to write on the board rather than use a Powerpoint or video</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I learn well when working with others</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I prefer to work on a computer unaided</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I enjoy learning new skills on the computer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I get frustrated when I use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
computers
I am confident to use ICT in class
I prefer when teachers do **NOT** use ICT
ICT makes learning more interesting
I am more interested in a subject when ICT is used in class.
I learn better through pictures and video
I learn better by listening to the teacher talk

Thank you very much for your time and consideration in completing this questionnaire
Appendix F

Interview Questions

1. What is your background within Adult Education?

2. From your own experience in dealing with adults returning to education what factors motivate them to take that step?

3. Do you think there is a difference in motivation levels in the learners based on their age and previous education experience?

4. What role do you feel ICT has in motivating an adult learner?

5. Do you feel that adult learners only use ICT in education if it is a requirement for their particular course of study?

6. From your experience does the access to computers and ICT equipment have any influence on the motivation of adult learners to achieve academically?

7. In your experience what are the indicators that adult learners are motivated?

8. Within your centre is there strong evidence that these indicators of motivation are present?

9. What evidence have you found that indicates that adult learners who have had access to ICT progress to 3rd level courses or progress within the Adult education sector?

10. In your opinion does the lack of access to ICT act as a de-motivator to adult learners?
Appendix G

Interview Transcript A

What is your background within Adult Education?

I have been the coordinator of the programme for the last number of years and before that I was a teacher within the Adult Education Sector teaching a variety of subjects.

From your own experience in dealing with adults returning to education what factors motivate them to take that step?

Well there is a number of factors and em, the first one would be the flexibility of the learning environment, it is very different ah, than mainstream education and also probably the fact that there would be smaller groups with a more individualised methods of learning and a lot of it would be really self-directed learning as well which adults would seem to enjoy. They feel more in control and they are able to go and use their own initiative and resource information themselves and also as well if they can see that there is a valid reason for this and that they can see that there is a goal, that there sort of helps their enthusiasm and motivation on the programme and that they can see an end result for the particular programme or course of study that they picked to do.

Do you think there is a difference in motivation levels in the learners based on their age and previous education experience?

Em, well that is a really difficult question because it is really an individualised thing and to a certain degree I can agree and say yes, but then on the other hand you know I would have to disagree. You could have an older learner who is very motivated and you could have an older learner who is not motivated at all and you could say the exact same thing in relation to a younger person so it really, really depends on the individual themselves, it does.

What role do you feel ICT has in motivating an adult learner?

ICT, you know it can have a really, really beneficial role in that it offers greater flexibility for the delivery of the programme and on the behalf of the teachers it offers different methodologies for their classes and it allows a larger number of learning styles to be accommodated, so for the teacher it is a great tool. Eh, it also can prepare the learner to participate in the labour market and to progress onto further study and in today’s world everything is sort of computerised and if they are familiar with ICT it is a great advantage to them when they leave the course. And it also helps to build their own confidence in their own ability and even during the initial interview for a programme we would always ask them about their level of computer skills and the fact that they can answer in a positive way really helps their confidence in interview skills. And ICT can also be used to accommodate any learner with specific learning needs such as Dyslexia perhaps, and it allows the learners again to work at their own pace and allows them to feel in control which is good for adult learners.
Do you feel that adult learners only use ICT in education if it is a requirement for their particular course of study?

Adults in general they need to understand why they are using something and unlike say perhaps younger kids at primary or secondary school, adults need to understand the relevance of why they are learning something so once they can understand the context of its use there is usually no problem at all and the majority of them embrace it and look forward to it and are very enthusiastic in using it and can see the benefit and advantage of it in building their own skills. And if a particular course is not ICT based they can still use a computer for Word Processing and research and typing assignments and stuff and most of them are prepared to do that as well.

From your experience does the access to computers and ICT equipment have any influence on the motivation of adult learners to achieve academically?

I think definitely, yeah, definitely although some students don’t have access to computers everyday any who have previous experience with a computer and the majority of them have access to a computer at home are more inclined to use the computer for research especially for mainstream subjects like English and then those that are in an IT based class are keen to develop the skills learned in class when they get home.

During our initial interview for applicants onto the programme as I said before, we would ask them about their computer skills and the majority of younger adults would have already have ECDL and would be very familiar with the most common programmes such as word processing, spreadsheets and databases ect. The older ones now you know, they may be more cautious and sometimes they feel that they may be familiar with it but they don’t want to say that they are knowledgeable in it in case you know they don’t think they are good enough.

In your experience what are the indicators that adult learners are motivated?

Well, I suppose like all courses or jobs or whatever, you know attendance and time keeping are the basic indicators of interest initially and then I suppose within the classroom, the work rate, participation and their interaction in class and then obviously practically, you would have the assessment results and within our centre they are generally, consistently very good and then how they progress and in their enthusiasm to progress onto further study would be an indication as well. You know and various things like that.

Within your centre is there strong evidence that these indicators of motivation are present?

Well, I have to say that I feel that there is definitely because the majority of adult learners in our centre when they come in and start at say a Level 3 they would progress to a Level 4 or a Level 5 and the majority of them do. And also as well probably because of the location of our centre and where it is, you know we are in the centre of a busy town and we do have a lot of opportunities in relation to
progressing on to other courses of study if they choose not to progress within our own centre we have [redacted] close by and a lot of opportunities career wise. I think that is a factor definitely that there is more opportunities and more choice out there for them.

What evidence have you found that indicates that adult learners who have had access to ICT progress to 3rd level courses or progress within the Adult education sector?

Well, again as I mentioned a high, high percentage of learners approximately 75% from the centre would apply to progress within our centre in our own courses or to 3rd level or even on to employment. And also we have a guidance counsellor who would quite regularly be in contact with past learners and get updates from them on their current situation and usually it is very positive regarding their progression.

In your opinion does the lack of access to ICT act as a de-motivator to adult learners?

Again that is a very individually based question and I would have to say that overall I don’t think so because some subjects, it depends really on the subject and some don’t lend themselves to the use of ICT and some do. Take Childcare for example that don’t really need ICT on a continuous basis, the teacher when needed will use ICT and it is always available for them to use, so on a whole I don’t think so.

However, a lack of resources can sometimes become an issue with adult learners but I wouldn’t consider it an exclusive de-motivating factor as it all ties in with other factors such as lack of time. Also other internal factors such as a persons own self confidence and motivation and esteem are more relevant so I don’t think that a lack of access to ICT can be exclusively seen as a de-motivator really.
Appendix H

Interview Transcript B

What is your background within Adult Education?

I began teaching in Adult Education in 2000 and I then became the co-ordinator for VTOS and I do the paperwork and I still teach Computer Applications.

From your own experience in dealing with adults returning to education what factors motivate them to take that step?

As part of VTOS interviews we ask why a person they have returned to education and they give us various reasons. Most of them want to further their education, maybe they had to leave school early or maybe they didn’t get good results or whatever and they want to progress on, em that’s one of them to further their education. Another one is that they may have children and they have a computer at the house and they don’t know what to do with the computer and with all the cyber stuff out there they want to be one step ahead of the children and that’s another reason why I would have found. Another reason that I would have come across as well was to meet people. They may be in long term unemployed, stuck in a rut and they want to get out there and get on the course where they can meet people and make friends. They aren’t stuck at home looking at four walls and bored so not everyone comes to further education because some are there to meet people.

Do you think there is a difference in motivation levels in the learners based on their age and previous education experience?

There is to some extent but what I have found is people who are around 40-45, maybe they are from large families and they had to leave school early, and you know they could be genuinely very, very smart but they had to leave to get work to keep the family going. They might have had the opportunity but they couldn’t avail of them as they had to go and earn a wage. Their education was cut short and what I have found is that they are the most motivated individuals. For example I had one person who left school early and he was such a hard worker and was very eager to learn. People may think that if someone left school early that they are not smart but a lot of them are and they just had to leave school early.

What role do you feel ICT has in motivating an adult learner?

Well, I don’t know if it actually motivates. It helps in reinforcing the learning, but I feel that motivation is all to do with the individual. Maybe they may learn something new in class and they will say “that is great” and it may encourage them to practice more at home but really it is down to the individual. If they are interested in the topic and ICT does offer a whole variety of ways to reinforce the learning. For example the data projector, sure you can demonstrate for them, and talk them through what is going on so it is a great educational tool, a great way of teaching. And you know most of them do pick it up but there are some who can’t pick it up by watching you and you know people have different ways of learning.
The data projector does accommodate most people but there are a few who it doesn’t you know.

**Do you feel that adult learners only use ICT in education if it is a requirement for their particular course of study?**
No not really, I think if they have an interest in computers they will use them even if it is not related to their particular course of study. They might use the internet for research, or to practice new programs. As you can show them so much and then they can use the help function then to try and find out more, they say “Can we do this or can we do that? You can show them the bones of it and then anybody who is interested then can find out more themselves. Then unfortunately there are others that have a genuine fear of technology and you know there are the two spectrums. Some are just so afraid of computers that even like after two years in a course they would still have a fear even though they can do everything but they still have a fear of computers and any technology. But some people would still rather do things on paper than go to a computer. ICT does help and you know, they can practise at home and there are so many educational programmes out there to show another way of learning something and you can go through at your own pace.

**From your experience does the access to computers and ICT equipment have any influence on the motivation of adult learners to achieve academically?**

No not really in my situation, in some centres students would only get access to computers from time to time but in my centre the computers are always there and the students have access at any time. We mainly run computer courses here so access is not an issue but for anyone doing Leaving Cert it would be a factor there. There is a childcare program and they don’t have access to computers all the time but they have an hour and a half one day a week access to computers so they are accommodated to a degree and they can avail of that if they want to. For research purposes the Internet is really important for the students and also there is loads of resources that tutors can avail off and they can pass on web addresses to the students so they can access resources from home.

**In your experience what are the indicators that adult learners are motivated?**

Well, there are a few really. If they are good time keepers and then too when you are delivering something if they are asking relevant questions it shows that they are interested and that they are taking stuff in. The attendance would generally be good and then a lot of those that are motivated, say your teaching something new today they will go and practice it at home and you know they are putting in that little bit of extra effort. And any deadlines for assessments, you know they would have met them no problem and those are generally the indicators that I would have come across.

**Within your centre is there strong evidence that these indicators of motivation are present?**

Well, there is really a sort of a division line because there are some who are very punctual and their attendance would be excellent and then there are others that
their attendance would be very lapsed and their time keeping wouldn’t be great and it does then have repercussions because if someone is coming in late and you are after demonstrating something to the class well, it means you have to go back over it again which really isn’t fair on those people that were already there because they have listened to the same thing twice. It can be good if it’s something difficult because they can benefit from that but if it’s something straightforward then you know it can be boring.
Some of those attending are excellent and would hardly miss a day and then others there is nothing really that you can do about that, you know. Some are good time keepers and some others who unfortunately aren’t.

**What evidence have you found that indicates that adult learners who have had access to ICT progress to 3rd level courses or progress within the Adult education sector?**

Well, we have a problem with that in Gortahork as if they want to progress on they have to go to Letterkenny or go further afield and anyone with family, you know there is commitment issues there like child minding and funding. Say for example the students finishing last year, eight of them got into the college in Gweedore but because of cutbacks in childminding and travel all things they were promised were gone and they would have had to take the course without any funding and the numbers dwindled until at Christmas there was one person left who then left. They are hampered with arrangements like that. Some of our students have progressed on to LYIT and are doing well but a lot of them would have child minding issues that prevent them.

**In your opinion does the lack of access to ICT act as a de-motivator to adult learners?**

It probably does even though my learners have access all the time in the centre it probably does as where I am, there are still areas that don’t have broadband so lots of learners can only do their research on the course. The lack of access our learners experience is at home where they might not have access to broadband and that’s frustrating for them.
## Observation Checklist

Classroom ____________ Level __ Content Area/Course ________________________

Number of Students _____ Observer __________________ Date____________________

<table>
<thead>
<tr>
<th>Time Segment in Minutes</th>
<th>5</th>
<th>10</th>
<th>15</th>
<th>20</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
<th>45</th>
<th>50</th>
<th>55</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Class Organisation</strong> – How are Students Working?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>① Individual students working alone</td>
<td>①</td>
<td>①</td>
<td>①</td>
<td>①</td>
<td>①</td>
<td>①</td>
<td>①</td>
<td>①</td>
<td>①</td>
<td>①</td>
<td>①</td>
<td></td>
</tr>
<tr>
<td>② Working in pairs</td>
<td>②</td>
<td>②</td>
<td>②</td>
<td>②</td>
<td>②</td>
<td>②</td>
<td>②</td>
<td>②</td>
<td>②</td>
<td>②</td>
<td>②</td>
<td></td>
</tr>
<tr>
<td>③ Small groups of 3+ students</td>
<td>③</td>
<td>③</td>
<td>③</td>
<td>③</td>
<td>③</td>
<td>③</td>
<td>③</td>
<td>③</td>
<td>③</td>
<td>③</td>
<td>③</td>
<td></td>
</tr>
<tr>
<td>④ Whole Class</td>
<td>④</td>
<td>④</td>
<td>④</td>
<td>④</td>
<td>④</td>
<td>④</td>
<td>④</td>
<td>④</td>
<td>④</td>
<td>④</td>
<td>④</td>
<td></td>
</tr>
<tr>
<td>⑤ Student Presentations</td>
<td>⑤</td>
<td>⑤</td>
<td>⑤</td>
<td>⑤</td>
<td>⑤</td>
<td>⑤</td>
<td>⑤</td>
<td>⑤</td>
<td>⑤</td>
<td>⑤</td>
<td>⑤</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time Segment in Minutes</th>
<th>5</th>
<th>10</th>
<th>15</th>
<th>20</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
<th>45</th>
<th>50</th>
<th>55</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2. Teacher Role</strong> – What is the Teacher’s role?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>① Directing the whole group (lecturing)</td>
<td>①</td>
<td>①</td>
<td>①</td>
<td>①</td>
<td>①</td>
<td>①</td>
<td>①</td>
<td>①</td>
<td>①</td>
<td>①</td>
<td>①</td>
<td></td>
</tr>
<tr>
<td>② Interactive whole group</td>
<td>②</td>
<td>②</td>
<td>②</td>
<td>②</td>
<td>②</td>
<td>②</td>
<td>②</td>
<td>②</td>
<td>②</td>
<td>②</td>
<td>②</td>
<td></td>
</tr>
<tr>
<td>③ Modelling whole group</td>
<td>③</td>
<td>③</td>
<td>③</td>
<td>③</td>
<td>③</td>
<td>③</td>
<td>③</td>
<td>③</td>
<td>③</td>
<td>③</td>
<td>③</td>
<td></td>
</tr>
<tr>
<td>④ Facilitating/Coaching</td>
<td>④</td>
<td>④</td>
<td>④</td>
<td>④</td>
<td>④</td>
<td>④</td>
<td>④</td>
<td>④</td>
<td>④</td>
<td>④</td>
<td>④</td>
<td></td>
</tr>
<tr>
<td>⑤ Managing Materials</td>
<td>⑤</td>
<td>⑤</td>
<td>⑤</td>
<td>⑤</td>
<td>⑤</td>
<td>⑤</td>
<td>⑤</td>
<td>⑤</td>
<td>⑤</td>
<td>⑤</td>
<td>⑤</td>
<td></td>
</tr>
<tr>
<td>⑥ Administrative tasks (Class Roll)</td>
<td>⑥</td>
<td>⑥</td>
<td>⑥</td>
<td>⑥</td>
<td>⑥</td>
<td>⑥</td>
<td>⑥</td>
<td>⑥</td>
<td>⑥</td>
<td>⑥</td>
<td>⑥</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time Segment in Minutes</th>
<th>5</th>
<th>10</th>
<th>15</th>
<th>20</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
<th>45</th>
<th>50</th>
<th>55</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3. Students use of ICT</strong> – Mark all that apply</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>① Word Processing</td>
<td>①</td>
<td>①</td>
<td>①</td>
<td>①</td>
<td>①</td>
<td>①</td>
<td>①</td>
<td>①</td>
<td>①</td>
<td>①</td>
<td>①</td>
<td></td>
</tr>
<tr>
<td>② Creating Presentations</td>
<td>②</td>
<td>②</td>
<td>②</td>
<td>②</td>
<td>②</td>
<td>②</td>
<td>②</td>
<td>②</td>
<td>②</td>
<td>②</td>
<td>②</td>
<td></td>
</tr>
<tr>
<td>③ Email</td>
<td>③</td>
<td>③</td>
<td>③</td>
<td>③</td>
<td>③</td>
<td>③</td>
<td>③</td>
<td>③</td>
<td>③</td>
<td>③</td>
<td>③</td>
<td></td>
</tr>
<tr>
<td>④ Google Search</td>
<td>④</td>
<td>④</td>
<td>④</td>
<td>④</td>
<td>④</td>
<td>④</td>
<td>④</td>
<td>④</td>
<td>④</td>
<td>④</td>
<td>④</td>
<td></td>
</tr>
<tr>
<td>⑤ Spreadsheets</td>
<td>⑤</td>
<td>⑤</td>
<td>⑤</td>
<td>⑤</td>
<td>⑤</td>
<td>⑤</td>
<td>⑤</td>
<td>⑤</td>
<td>⑤</td>
<td>⑤</td>
<td>⑤</td>
<td></td>
</tr>
<tr>
<td>⑥ Database</td>
<td>⑥</td>
<td>⑥</td>
<td>⑥</td>
<td>⑥</td>
<td>⑥</td>
<td>⑥</td>
<td>⑥</td>
<td>⑥</td>
<td>⑥</td>
<td>⑥</td>
<td>⑥</td>
<td></td>
</tr>
<tr>
<td>⑦ Other</td>
<td>⑦</td>
<td>⑦</td>
<td>⑦</td>
<td>⑦</td>
<td>⑦</td>
<td>⑦</td>
<td>⑦</td>
<td>⑦</td>
<td>⑦</td>
<td>⑦</td>
<td>⑦</td>
<td></td>
</tr>
</tbody>
</table>
### 4. Students use of Inquiry tools – Mark all that apply

<table>
<thead>
<tr>
<th>Time Segment in Minutes</th>
<th>5</th>
<th>10</th>
<th>15</th>
<th>20</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
<th>45</th>
<th>50</th>
<th>55</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Online searching on own initiative</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2. Teacher suggested sites</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3. Linked to further websites</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4. Subject specific CD-Rom</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5. Encyclopedias</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

### 5. Students Level of technical skill – Mark one

<table>
<thead>
<tr>
<th>Time Segment in Minutes</th>
<th>5</th>
<th>10</th>
<th>15</th>
<th>20</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
<th>45</th>
<th>50</th>
<th>55</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Need lots of help (more than 20% are unable to proceed)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2. Somewhat skilled (10-20% need some assistance from teacher)</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3. Independent (fewer than 10% need assistance from teacher)</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

### 6. Learning Styles used – Mark all that apply

<table>
<thead>
<tr>
<th>Time Segment in Minutes</th>
<th>5</th>
<th>10</th>
<th>15</th>
<th>20</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
<th>45</th>
<th>50</th>
<th>55</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Verbal/Linguistic</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2. Logical/Mathematical</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3. Visual/Spatial</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4. Interpersonal</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5. Intrapersonal</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6. Naturalistic</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

### 7. Briefly describe the lesson
8. Note any off task or inappropriate behaviour:

9. Curriculum Fit: How would you rate the effectiveness of the technology used during this class activity to the specific learning outcome in the Module/curriculum (circle one)

| The use of the technology was not effective in any way | The technology used was of limited effectiveness in teaching the specific learning outcome | The technology used was moderately effective in teaching the content; other methods might have been as effective | The technology used clearly addressed a the specific learning outcome and its use was effective in enhancing the lesson content | The technology used addressed an essential piece of the topic content; it would have been very difficult to teach this specific learning outcome without using the technology |

1 2 3 4 5

10. Student Engagement Indicators – Make notes on your overall impression of the lesson:

<table>
<thead>
<tr>
<th>Hands-on Work</th>
<th>Tied Into Interests &amp; Made Interesting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Students Given Choices</th>
<th>Learning Put In Context</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>