# Nowhere to Hide:
# A study of adult learners on a basic ICT course

by

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## Abstract

When key theorists in adult education are reviewed, there is not a strong focus on ICT, or on its transformative power. Most of the adult learning theory is dated B.C, a phrase taken from Bosley (2011:30), meaning before computers. I believe that adults, and the whole world in general is being transformed by its use. It is particularly interesting to examine people who grew up in a different era, a time before the computer, a time where the tools and techniques of ICT were not learned or practiced.

From my research four major findings have emerged that will contribute to the understanding of how adults talk about, understand, learn and place ICT in their lives. Firstly, the understanding of self in relation to digital technology. How these adults place themselves in society and how ICT is impacting of their everyday life. There is an overwhelming amount of fear felt by the participants, which also contributes to their motivation for wanting to learn. Secondly, the learners understanding of the learning process, and how the learner underestimates their own informal learning. These participants have been around ICT for many years and know more than they think they do. It was found during my research, that by sharing expertise with each other that these adults confidence was increased and the ability to move forward was more likely. Thirdly, obstacles and supports. The obligation felt by the participants to partake, the force of ICT and the power it has on their lives seems now to be giving these adults no choice but to partake or be left behind. These adults see it as something they have to do but they do not fully like it and are not fully comfortable with it. The profound ambivalence felt by each learner, the conflicting reactions, beliefs and feelings towards ICT and the shifting societal expectations is changing the role these adults now face in society. And fourthly, the social element. These adults were on this course not for better jobs, or to earn more money. They were there because they were feeling left out, isolated from friends and family and they wanted to learn in order to rejoin a world that was leaving them behind.

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# Chapter 1 Introduction

ICT, in some way, affects all our lives and it is becoming increasingly hard to ignore or resist its use. Prensky (2001) states that there are age-related differences in ICT use and skills, creating a digital divide between generations. It is argued that our children are growing up in this culture but adults face a number of unique barriers and challenges when it comes to adapting to ICT. Rigorous efforts are made by governments, business sector and civil society to offer a integrated system of further education and training (FET) that will implement economic investments and social inclusion. The changing work place, the rapid velocity of new technologies, the spread of knowledge are just a few reasons why it is important for adults to learn ICT. My interests lie in what happens when people start offering courses to older adults and how this works in practice. Black (1999:5) claims that ICT not only benefits adult learners in educational settings or employment but that when an adult finds out they can operate a computer, it improves their confidence.

This study's aim is to develop an effective ICT based teaching program and my research was designed to better understand the experience of adults learning ICT in a formal learning environment. I narrowed this research by identifying the main areas of interest to me, and the questions that guided my inquiry are:

- How do adults learn ICT in a formal setting and how does this impact on their everyday lives
- What are the fears and motivations behind engaging with ICT.
- How can we improve the way ICT is taught in a formal setting

## Overview of Study

This is a two-tiered qualitative research study using one-to-one interviews and participant observation. I decided from the outset to concentrate on adults aged thirty five and over, who are currently enrolled in a beginners computer course or who have completed one such course within the last year. I am interested in the generation that did not grow up with digital technology, and their understanding of what it means to them in their lives. Three of the participants were selected who were currently engaged in a beginners course in computing and two adults from the same centre who had completed the course the previous year. I also interviewed three other adults from a different centre who had completed a beginners computer course within the last year. These adults did not sign up to the courses for better jobs, or to earn more money, they were there because they were feeling left out, isolated from friends and family and they wanted to learn in order to rejoin a world that was leaving them

behind. My research has a focus on motivation, on why they registered on the course and what barriers and challenges they faced during the course. Research completed by Seals (2008) states that adults experience difficulty with mastering ICT and my participant observation allowed me to be present during one such beginners class to see for myself what goes on, in an effort to understand what helps and hinders adults on their learning journey.

This study's aim is to develop an effective ICT based teaching program. The issue of how to teach ICT skills to adults is an area that has been widely researched. Much research focuses on how adults learn, on motivation, cognitive ability, ICT access or lack of and reasons why adults should learn ICT. However, my research is a study of the classroom, of the actual learning environment that adults face in a formal learning setting. My research aims to build on existing methods and techniques but also to add elements that I feel are missing when adults engage with ICT. While I had a strong focus on all ICT, two elements were repeatedly mentioned in my study, the computer and the mobile phone. There were brief discussions regarding the television, more directly the sky box which uses the internet to connect to the on-demand box and cameras using SD cards and problems with printing photo's from such devices.

I was particularly interested to uncover the participants own views of the learning process and where they placed ICT in their lives. A major concern was the challenge to their status in the home, workplace and the learning environment. Casey also noted in his research that "one of the key sources of tension is the undermining of a person's standing or role in a workplace or family setting" (Casey, 2009:224). One of the fundamental ways people judge each other in a highly technological world is their capacity to deal with tools and practices which are modern. The participants felt left out, isolated and alone because of their lack of ICT knowledge and they wanted to "rejoin the human race" (Bosley, 2011:29).

A definition of ICT, taken from the Cambridge Dictionaries Online, states that:

> (ICT is an) abbreviation for information and communication technology: the use of computers and other electronic equipment and systems to collect, store, use, and send data electronically.

In the first chapter I have highlighted the questions that guided my research and have given a overview of my research. In chapter two I will look at the literature already available on this topic. I have broken chapter two into four sections in the hope that each will give a clearer understand of the challenges and supports that are available to adults learning ICT. In the

third chapter I will detail how I went about doing my research and details of how I completed my participant observation and interviews. In chapter four I will explore my findings and highlight the main areas in which the adults in my research had concerns and also the positive elements taken from the study. Adult learning may be represented through the choices and desire which makes any learning decisions an important area of research. Adults who make a decision to take part in a course are a valuable insight into the power of learning decisions and the resulting actions. In chapter five I will support my findings with ideas from literature and show how my findings fit into the existing body of research.

# Chapter 2 Literature Review

## Introduction

The literature review is divided into four sections and each is intended to clarify and explain the research questions. In the first part I will give a background to what is meant by the term digital divide. In the second part I will discuss why the discussion of ICT so important in recent times. I will briefly look at policy documents in Ireland and Europe to see why the need to re-skill or up-skill is of such importance. Skills are critical to the success and well-being of individuals and they are also key drivers of economic growth. While 'skills' covers a broad area, there is a strong focus on ICT in this area. However, this thesis is not primarily concerned with policy issues. I am more interested in what actually happens when people start offering courses to adults and how this works in practice. The third part will look at some of the theories of adult learning that already exist to help frame what makes for good adult learning and what gets in the way. The fourth part will look at the work already completed in the area of adults and ICT, to better understand obstacles, barriers and motivation on these courses.

## 1. Background Literature - The digital divide?

The digital divide is a social problem that is caused by inequalities in the ability to access and to use information communication technologies... the digital divide is a threat to social and economic justice as well as to education (Tarman, 2003:4). Current efforts to address the divide are primarily centred on improving access and enhancing speed. There are many layers to the digital divide, starting from the access layer, where access is still a problem even in Ireland, "Ireland ranks only 42nd in the world in the distribution of fast broadband. Commercial companies advertise broadband speeds of 240Mbps in cities and towns while rural areas subsist on speeds of 1-2Mbps (or) no broadband at all. The digital divide has become a chasm" (McGreevy, 2015).

But how credible is the notion of the digital divide? It is a commonly used metaphor that I have used in my research, but no matter how helpful or useful the term is, it has a perspective and this is clear by the many decisions that set restrictions upon its focus and scope. "The 'digital divide' is one of the most discussed social phenomena of our era. It is also one of the most unclear and confusing" (Warschauer, 2001, cited in Gunkel, 2003). Research completed by Prensky (2001) states that there are age-related differences in technology use which also adds to the digital divide. He believes that a student today would "think and

process information fundamentally differently from their predecessors" (Prensky, 2001:1). Prensky (2001:1) coined the term 'digital immigrants' to the generation born prior to 1980. They are the generation that were not born into a world of ICT and who's concept of ICT is learned and not natural. Prensky (2001) offers the terms 'digital natives' and 'digital immigrants' to set up a generational divide. He shows digital experience as wonderful and old ways as useless. However, Guo (2008) feels that Prensky's "study implies that the digital divide thought to exist between "native" and "immigrant" users may be misleading" (Guo, 2008:235). Prensky claim that there is a link between brain function and digital media have been challenged on different levels (McKenzie, 2007), "it is unclear as to how informal exposure to digital technologies influences competency with and understanding of those technologies" (Guo, 2008:237). Challenges have also been raised by Bennett, et al. (2008:7) who claims:

> Though limited in scope and focus, the research evidence to date indicates that a proportion of young people are highly adept with technology and rely on it for a range of information gathering and communication activities. However, there also appears to be a significant proportion of young people who do not have the levels of access or technology skills predicted by proponents of the digital native idea. Such generalisations about a whole generation of young people thereby focus attention on technically adept students. With this comes the danger that those less interested and less able will be neglected, and that the potential impact of socio–economic and cultural factors will be overlooked. It may be that there is as much variation *within* the digital native generation as *between* the generations.

Prensky implies that the future or younger generation speak an entirely different language and that the older generation are "now in the process of learning a new language. And a language learned later in life, scientists tell us, goes into a different part of the brain" (Prensky, 2001:2). Warschauer (2004) believes that access is the key component to the digital divide, he feels that the original sense of digital divide attached importance to the physical availability of technology rather than to issues of content, language, education, literacy or community. Warschauer's (2004) theory states that the need to attract more people into employment and the need to re-skill has been identified, and campaigns to render this have been put in place, yet there is still a divide. He believes that plans are put in place in technology projects which focus on hardware and software issues and that these plans play little attention to the human and social systems that must also change for technology to make a difference. Warschauer (2004) believes that the use of technology to engage in meaningful social practices is the key to challenging the digital divide. Karavidas stated that "the older

the individual, the less computer knowledge and interest they were likely to have. Computer anxiety was positively correlated to age" (Karavidas, 2005:700).

## 2. Why is the discussion about ICT so important?

Over the past decade Ireland has undergone dramatic changes from the era of the 'Celtic tiger' to the collapse of the banking sector. The recession in Ireland has resulted in an increase in unemployment and immigration. There is a vast amount of evidence both at EU level and at national level to support the fact that the government sees the advantages of up-skilling and/or re-skilling and have taken many initiatives to try achieve this.

### Further Education and Training (FET)

The Further Education and Training (FET) Act was signed into law in July 2013. It provided for the dissolution of FÁS and the establishment of SOLAS. The strategy is aimed to develop a world-class integrated system of further education and training in Ireland that will help economic development and meet the needs of all citizens. The main focus of the strategy is to provide the following skills through the FET (SOLAS, 2014:4-5).

- skills as a resource for economic growth
- skills as drivers for employment growth
- skills as drivers of productivity increase
- skills and 'smartening' of the economy
- skills as a driver of social inclusion and social mobility
- skills as an insulator from unemployment

A key priority of the strategy is to address the unemployment challenge and much of the focus is in the areas of up-skilling and re-skilling for the economy but also skills as a driver of social inclusion and social mobility. It states that

> Regardless of age and circumstances, having the right skills and the opportunity to use and develop them in order to gain confidence and self-esteem is essential to contribute to a better society, as well as to improve employability and productivity. The ability to transfer those skills to new situations and to be able to communicate, including through technology, in a way that suits individual circumstances and aspirations is at the premium in an evolving knowledge-based economy
> (SOLAS, 2014:5).

According to CSO data, "computer and internet usage rates in 2007 for those in the 16 to 49 years age range were 61.8% and 57.5% respectively, compared to 37.9% and 31.7% for those aged 50 to 64, and to 18.0% and 14.3% for those aged 65 to 74" (WRC and Age Ireland, 2009:ii), despite efforts made by the National Adult Literacy Agency (NALA). In 2010, NALA carried out projects with twelve adult literacy centres across the country to introduce

and use www.writeon.ie, as a part of traditional face to face centre based tuition (NALA, 2010:8). But despite efforts adults participation in ICT is still low. Programme for the International Assessment of Adult Competencies (PIAAC) assessed respondent's ability to use a number of common computer applications (e.g. email, spread sheets, word processing, internet browser) to complete various tasks. More than two-fifths (42%) of adults in Ireland score at or below Level 1 (PIAAC, 2012). However, even with this evidence of the need to focus on adult skills, a survey by the PIAAC reveals that "adult skills have not been the focus of attention in the Europe 2020 context so far (in the case of Ireland this was mainly due to the fact that the focus was on the implementation of the financial assistance programmes)" (PIAAC, 2013:25).

According to Casey, there are many people currently working who have low levels of education and low technology skills, and this is especially true in the case for the older age group (Casey, 2009:16). So why are the imbalances still there and why is the digital divide still growing? According to the Digital Marketing Institute (2014), the digital native generation are demonstrating 25% higher levels of digital skills than the digital immigrant's generation.

Lifelong learning is a stated priority of government policy in Ireland and in the EU, and is seen as key to personal development and social inclusion as '…education empowers individuals to participate fully and creatively in their communities'. (Department of Education and Science, 1995:13). The European Commission (2001: 9) found that lifelong learning has "four broad and mutually supporting objectives: personal fulfilment, active citizenship, social inclusion and employability/adaptability". Policy in Ireland encompasses a range of areas for up-skilling and re-skilling and there is a strong focus on ICT.

The policy discourse of up-skilling and re-skilling is not such an innocent one, in fact it is quite instrumental. Murphy states that " lifelong learning is both an educational concept and a policy position" (Murphy, 2005:1). Fleming would argue that ""Lifelong learning is the link between the economy and adult education" (Fleming, 2010:1) and Grummell states that "recent developments in educational policy-making are increasingly shaped by neo-liberal discourses that adapt adult education principles, such as lifelong learning and emancipation, for its own economic and political logic" (Grummel, 2007:182). So is lifelong learning viewed as a good thing and what is it really about? LLL seems to be the direct result of the present economic climate which can enable adults to show adaptability in modern society

through enhancing skills. Lawson (1975:46) implies "to call an activity or process 'educational' is typically to vest it with considerable status". To the participants in my research it was more of a chore than a goal, it was a fact of life and not viewed with overly positive feelings. This view was not in direct relation to lifelong learning, which was viewed as positive if the conditions and circumstances suited the learner, but to be forced to up-skill or re-skill can bring negative connotation and take away from the experience of learning. The adults in my research viewed their time of learning as past and had other more pressing needs and interest, such as raising their family, work and also dealing with financial constraints. Life to them, without ICT, tended to be slower and less stressful. ICT was creating a pressure which they could all have lived without. Policy frequently promotes social inclusion through lifelong learning, but its main focus is on the disadvantaged. Policy defines social inclusion as when "people can participate fully in economic, social and civil life, when their access to income and other resources (personal, family, social and cultural) is sufficient to enable them to enjoy a standard of living and quality of life that is regarded as acceptable by the society in which they live and when they are able fully to access their fundamental rights" (Communications from the commissioner, 2001:34). The direct economic effects of lifelong learning include earnings and employability. Indirect effects consist of higher incomes which tend to also effect health, well-being and sociability. For learners a positive outlook on the future and the ability to take charge of your own life are essential to further continuing successful learning. Increasing educational achievement in all areas of the labour market is viewed as the main objective in maintaining Ireland's competitive edge. Ireland's future economic success is linked to the skills and abilities of the entire workforce. The problem is that learning is oriented to employer or consumer interest or to the development of learning opportunities. Another issues raised by Sweeney is that "the already better educated more likely to engage in LLL (having more familiarity with and confidence in learning) and the lower educated who need it most participating the least" (Sweeney, 2012:12). My participants were interesting in the fact that none of them were on the course, or had completed the ICT course in search of employment, and only two of them were currently in employment, but the need to re-skill or up-skill for their job was not the reason they were on the course. To them it was social and family reasons, they were participating in LLL to better their own understanding of ICT, it was purely for themselves.

The integration of ICT in teaching and learning for adults has been recognised, to improve skills in the workplace and for social inclusion. However, my interests lie in how these

courses are being offer to adults? The need for these course has been established but what about the delivery of them. In the next section I will look at some of the key adult learning theorists, in an effort to determine what constitutes good adult learning and how adult learning is understood.

## 3. Understanding Adult Learning

Key theorists in adult education encompass the basic concepts of behavioural change and experience. The purpose of this section is to determine how good learning happens in adults, and while much of the key theorists work is before the digital era, what I want to highlight is what key theorist view as important in how learning happens, whether it be maths, English or ICT, how do adults learn? I started off looking at the Humanistic Theory but I found that it did not answer all my questions. From a humanistic perspective I have used the work of Rogers and his person centred theory. I have always been drawn to Knowles' theory of andragogy as I believe that adults learn differently to children and have different approaches to learning. I have also chosen to look at Vygotsky's work as his concept of tools is very relevant to an ICT setting. Lave and Wenger's theory of situated learning and the move from novice to expert also has relevance to my research.

Malcolm Knowles was an American adult educator, famous for his theory of andragogy, self-direction and also a fundamental influence in the development of the Humanist Learning Theory (Smith, 2011). Humanism highlights the study of the whole person, not only behaviour through the eyes of the observer but through the eyes of the person doing the behaving (McLeod, 2007). Humanistic theory implies that "learners are impelled toward self-actualization... learner development and responsibility are of utmost importance. To a humanistic facilitator, the expert delivery of course content is of secondary importance" (Ross, 2002:11). Rogers (1969) also from a Humanistic theory perspective, believed that to be a fully functioning person you have to reach self-actualization and learning is viewed as a personal act to fulfil one's potential. Rogers (1969) person-centred theory (therapy) suggests that people could be helped more if they were encouraged to look at their current individual understanding of a subject rather than on the unconscious or someone else's understanding of a subject. Rogers viewed people as social beings who require interaction to develop. But, according to Rogers (1969), when this interaction is positive, a person can develop and flourish in any area, but when the interaction is negative it can have lifelong implications for that person. Previous research (Mann, 2014) demonstrates young adults often experience negative life events prior to related periods of depression, anxiety and anger and that negative events can influence students' readiness to learn. In the learning environment adults can bring with them negative experience in areas of trust, beliefs, respect, values and attitudes, and these experiences need to be understood in order for adults to reach their full potential in an educational setting.

Knowles (1980) also believed that prior experience in life and work of the learner is relevant as a learner will draw on their past experiences during the learning process. These prior experiences can hinder the learner as often they can harbour feeling of resistance, biases or negativity. Rogers believed that the learning environment should not be a place "of lifeless, sterile, futile, quickly forgotten stuff which is crammed into the minds of individuals" (Rogers, 1969:3). As facilitators it is important that the learning space will give a "insatiable curiosity which drives the learner to absorb everything they can see or hear or read about" (Rogers, 1969:3) from a subject they choose. When an educational setting reduces the threat to a learner the potential for learning and development is greatly increased. Rogers idea that failure is only a word and that there is a difference between "failure and making a mistake... mistakes are a part of the learning process" (Rogers, 1969:18). It is through trial and error that most things are accomplished. Adults perceptions and life experience stands to them and that is, in my opinion, an integral part to be included in any computer course for adults.

Rogers (1969) was a believer of non direction learning, where he viewed the learner as being able to work things out for themselves. Much of Rogers' work focused on therapy, but it can also be applied to the learning environment. In order to help a learner regain belief in themselves or trust in the learning environment and to know that their personal experiences are being respected and gradually understood, is possible using Rogers (1969) core conditions of congruence, acceptance and empathy. Congruence is to have genuineness and honesty with a person, not to be thinking one thing and saying something completely different. Adults are for the most part not stupid and can figure out when someone is not being genuine. There is nothing worse for an adult that being made to feel insignificant or stupid. Congruence is about being real and understanding that every person is different and it is because of this that the exact nature of the relationship cannot be controlled or predicted in advance. Empathy is to have the capacity to feel what another person is feeling, and in the case of an adult to appreciate that they are busy, often tired and by no means in any learning environment to be patronised or spoon fed. They should be respected and accepted as they are in their present situation and with their personal feelings. The strength in Rogers approach is in the relationship between the facilitator and the learner, "learning rests upon certain attitudinal qualities that exist in the personal relationship between the facilitator and learner" (Smith, 1997). It is important for the learner to feel relaxed and comfortable in their environment and with any anxiety reduced the space to learn is greatly increased. Rogers (1969) believed that for a person to grow they need an environment that gives them openness

and self-disclosure, unconditional positive regard and the space to be listened to and understood. Without these a person cannot develop as they should.

Underpinning Knowles (1980) theory of andragogy is the idea that adult and children learn differently. To start with, Knowles (1968) placed andragogy in opposition to pedagogy. Andragogy being best for adults, and pedagogy best for children. He did change this in later works (1980, 1984) so that either method can be used with children or adults, depending on circumstances. In the pedagogy model, used to teach children, the learner is dependent on the teacher who directs when, how and what is learned (Knowles, 1980). In andragogy, the learner is steered more towards self-directed learning. Knowles defines self-directed learning as, "in its broadest meaning, self-directed learning describes a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes" (Knowles, 1975:18). An adult "perceives herself or himself to be essentially responsible for her or his own life" (Knowles, 1980: 24). The teacher is there to encourage and nurture this independence. In self-directed learning the curriculum is organized around the learner, so that what they learn is directly related to their lives. Knowles (1980) proposes six assumptions about adult learners which determine how the teaching of adults should proceed. His assumptions, which he viewed as a "system of concepts" rather than a theory are:

- The learners need to know (prior to starting the process of learning)
- The self-concept of the learner (adults are actively involved in decisions that affect themselves)
- Prior experience of the learner (life and work experience)
- Readiness to learn (when new information is needed to cope with life situations)
- Orientation to learning (experiences should be structured around life situations)
- Motivation to learn (by internal factors rather than external factors).

(Knowles, 2012:63/7)

Knowles (2012) believed that adults are motivated by internal factors more so than external factors and "people become ready to learn something when they experience a need to learn it in order to cope more satisfyingly with real-life tasks or problems" (Knowles, 1980:44). He believed that an adults desire for self esteem, quality of life or job satisfaction were what motivated them rather than better jobs or higher salary, which he viewed as being not as important (Knowles, 1984:279). All theories have strengths and weaknesses and Knowles system of concepts are no different. His assumption are based on experience and observation,

rather than research (Blondy, 2007:116). It is also unclear to me when reading his literature if one assumption should be given a higher priority than another. In my mind motivation is the key to adults learning, yet motivation for Knowles was only an add on to previously gathered assumptions. Hartree (1984) queries if these assumptions are just a set of guidelines. He believes that they "can be read as descriptions of the adult learner… or as prescriptive statements about what the adult learner should be like" (Hartree 1984 cited in Merriam and Caffarella, 1991:250). Knowles' and Rogers' concepts have been criticized by Merriam and Cafffarella (1999) as ignoring the role of social interaction in adult learning which in turn creates individualism and goal orientated learners.

Vygotsky (1978) sees social interaction as being essential in acquiring knowledge and understanding, through experience. He believes that the community plays a vital role in developing meaning and this development cannot be understood without taking into account the social and cultural context in which development is embedded. Vygotsky(1978) states that humans use tools that develop from a culture to make sense of their social environment, tools such as speech, writing and in today's society ICT. He believed language to be man's greatest tool. The human mind to Vygotsky (1978), is created through a person's interactions with the world and is an feature of the relationship between subject and object. Vygotsky's (1978) Activity theory looks at the way that tools, such as the computer, blends into the user's real life activities helping to improve their performance. Tools, such as the computer, shape the way people interact with reality. Knowing and learning have to be understood in context. The computer as a tool needs to be mastered and to master it will take time, patience and practice. When an understanding of what a computer can do for them is realised, this will then have a knock on effect on their confidence and on their everyday life. Vygotsky (1978) introduced the idea of tool negotiation in human activity to show the individuality of human intellect. According to Vygotsky "we cannot successfully identify higher mental function of human psychology with any theoretical assumption of direct encounters between a subjective agent and objective world" (cited in Park, 2015:219). In other words, the relationship between people and objects is mediated by cultural means, tools and signs. Vygotsky's (1978) theory provides an understanding of teaching and learning that reflects the difficulty of social and cultural contexts in the modern learner. Vygotsky's (1978) Activity theory also looks at the way that tools connect into the user's real life activities, thereby helping to improve their performance and shape the way people interact with reality. Vygotsky (1978) believes that social interaction is an important role in the process of

cognitive development. His theory of the zone of proximal development (ZPD) has been defined as:

> the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers.
> (Vygotsky, 1978: 86).

In literature the ZPD has become synonymous with the term scaffolding, a term which was introduced by Wood (1976). Wood describes scaffolding as the:

> process that enables a child or novice to solve a problem, carry out a task or achieve a goal which would be beyond his unassisted efforts. This scaffolding consists essentially of the adult "controlling" those elements of the task that are initially beyond the learners capacity, thus permitting him to concentrate upon and complete only those elements that are within his range of competence
> (Wood et al, 1976:90).

When assistance is given at the right moment a learners will be able to achieve their goal that otherwise would be too difficult for them. In the learning environment scaffolding can be used with just about any task. Silver (2011) suggests that the following considerations be used as guidelines.

- Assess the learner's current knowledge and experience for the academic content.
- Relate content to what students already understand or can do.
- Break a task into small, more manageable tasks with opportunities for intermittent feedback.
- Use verbal cues and prompts to assist students.

The ZPD and scaffolding are relevant and useful ideas when it comes to looking at adults in a learning environment. The space between an adults ability to perform under supervision and the ability to perform the problem independently is according to Vygotsky, the zone where a great amount of learning occurs. When applied to adults and digital technology the theory works the same. If assistance is given at the right time then little by little the scaffolding can be removed. Wenger and Vygotsky both focus on interaction and when applied to adults, it is in the space of interaction that real knowledge is formed. Lave and Wenger's (1991) theory implies that anyone who shares a passion or idea can work with others and learn how to improve themselves, their passion or their idea and this happens through regular interaction.

Research completed by Vygotsky (1978) and more recently Lave and Wenger (1991) show that learning is open, dialogical and socially imbedded. For many adults the concept of

learning can be linked to images of teachers, homework, classrooms, books, reading, exams and rules. Wenger (1998) proposes that this should not be the case. Lave and Wenger (1991), state the learning must be understood in context. Situated learning takes place in social situations with other people. If you put a learner in a real world situation and they interact with other people then learning happens. It is not intentional it just happens as a function of its surroundings. Focus moves away from the individual to the surroundings and the people in it, what Lave and Wenger (1991) call a Community of Practice (CoP). There are three essential components to CoP, shared area of interest, shared practice and engagement in discussion and activities that lets members share knowledge and interact with each other. Advantages of CoP is that it fully engages participants and gives meaning to knowledge being acquired. CoP is efficient and an effective way to handle unstructured problems and share knowledge outside of the structural boundaries of knowledge. One critiques of Lave and Wenger's work (Duguid, 2005:109) would imply that it reduced the importance of individual agency but Lave and Wenger (1991) would argue that "the focus on the social aspect of learning is not a displacement of the person. On the contrary, it is an emphasis on the person as a social participant, as a meaning-making entity for whom the social world is a resource for constituting an identity" (Wenger, 2012:2).

The interactions between novice and experts was Lave and Wenger's focus in their earliest publication (1991), however this seems to have changed in subsequent books to focus more on personal growth (1998) and changed again (2002) to improving organizational competitiveness. In their earlier work Lave and Wenger (1991) used example of how midwives, tailors and meat cutters learned their skills in the context that those skills were being practiced, on the job training. They noted much of the learning was done in these informal settings, through discussions with more experienced peers. It was through these informal gatherings that skills were learned, practiced and perfected. Cox states "such interaction achieves authentic, motivated learning of what is needed to be known about the complexities of real practice " (Cox, 2005:528). Lave and Wenger (1991) called this 'legitimate peripheral learning', and state that "learners inevitable participate in communities of practitioners and that the mastery of knowledge and skill require newcomers to move toward full participation in the sociocultural practice of a community" (Lave and Wenger, 1991:29). The newcomer is given the opportunity to learn by engaging in small tasks and when they have eventually mastered the skills required, then the student becomes the master and takes responsibility of mentoring the next newcomer. Cox (2005) suggests that in this

context, CoPs can be viewed as a system for people to acquire and polish existing skills rather than to create new ways to complete a task.

Another theory from Dreyfus (2004) states that there is a five stage model of adult skill acquisition. Novice, Advanced beginner, Competence, Proficiency and Expertise. Novices acquire know-how, which is the basic knowledge of how to perform a task or function through practice and experience (Dreyfus, 1986). Dreyfus claims that a person's know-how is often invisible to them and only becomes visible when that person encounters a new situation and is faced with the fact that they do not know how to accomplish it. This he believes is how the know-how is developed (Dreyfus, 1986). For a Novice learner "the instruction process begins with the instructor decomposing the task environment into context-free features that the beginner can recognize without the desired skill" (Dreyfus, 2004:177). To easier understand what Dreyfus means, he uses an analogy to chess. A novice chess player will first learn the numeric value of each piece regardless of its position and will follow the rule "always exchange if the total value of pieces captured exceeds the value of pieces lost" (Dreyfus, 2004:177). In an ICT setting the basic skills of the keyboard and mouse could be looked at the same as the chess pieces. Regardless of the function knowing where they are located and the names of certain key's and how to use them is the basic knowledge that is required for these adult learners to be skilled in ICT.

## 4. Adult learning and digital technology

Part of my research is understanding why ICT has become the new topic for discussion but also how it is being implemented and how it is impacting on what is happening in the classroom. The older generation or digital immigrant generation learn 'like all immigrants, some better than others, to adapt to their environment, they always retain, to some degree, their "accent," that is, their foot in the past" (Prensky, 2001:2). Prensky claims that the digital immigrant group show their immigrant position through a “digital immigrant accent” that becomes apparent in a number of ways such as, they may print out an attachment rather than read or edit it online or make a phone call to check if an e-mail was received (Prensky, 2001:2).

Leo Casey (2009) examined how and why adults approach their own learning for basic digital literacy. He looked at the experiences and actions of students of a blended learning course, Know IT, which was intended to improve basic computer skills. Casey found that low levels of digital literacy hindered their ability to adapt to changes in the workplace or to participate

in further training. He also found that digital literacy was becoming important in everyday life and individuals who could not or did not partake felt excluded, left behind and alienated. The desire was there to be competent. What Casey found from his research is that the designers of e-leaning (e-learning refers generally to the use of digital technology to enhance learning) should plan to bring in the positive idea of the digital world. There is a need to focus on specific ability rather than general and on positive learner self-concept. Casey (2009) points out that there are many people currently working who have low levels of education and low technology skills, "this is especially the case for the older age group" (Casey, 2009:16).

> This leads to my argument that digital literacy, as competence and participation in the use of everyday computer technology, is an important basic literacy in modern developed economies and represents a special kind of learning challenge for adults.
> (Casey, 2009:18).

Black claims that ICT not only benefits adult learners in educational settings or employment but that when an adult finds out they can operate a computer, "it improves their confidence" (Black,1999:5). Segrist (2004) completed a study on the attitudes of older adults to computers and she found that the more experience adults had better attitudes. Her overall results indicated that in older adults "computer attitudes are modifiable and that direct, customized, computer training is an effective catalyst for change" (Segrist, 2004:568). The comfort these adults felt using computers correlated with their experience so the more they learned the more comfortable they felt. Seals found that older adults are "experiencing difficulty with its mastery" (Seals, 2008:1056) and as a result is negatively impacting on the interest of adults. Nycyk and Redsell (2006) found that technology can become a source of stress for seniors (cited in Seals, 2008:1056). It has been noted by Seals (2008) that the problem may lie with the developers who should take into consideration the audience they are designing for, mainly the community at large. Seals noted that web sites tend not to be user-friendly for older adults because of font size and layout suggesting a move away from trying to change adults and towards changing ICT.

Gillmon (1991) wrote about keyboard proficiency which she described as an essential skill in a technological age. She believed that keyboard skills should be taught as part of the curriculum in secondary schools. However supporting material in this field has been directed mainly towards the disabled, or adults and school leavers with the positions of office work or journalism in mind. Mitzner et al (2010) reported positive attitudes related to technology

"were most frequently related to how the technology supported activities, enhanced convenience, and contained useful features. Negative attitudes were most frequently associated with technology creating inconveniences, unhelpful features as well as security and reliability concerns" (Mitzner et al, 2010:1714). Bean reported that “Adults, especially the old adults, need a direct correlation with their lives to maintain interests” (Bean, 2003: 7).

The language of ICT still poses a problem for many adults. Prensky claims that "today's older folk were "socialized" differently from their kids, and are now in the process of learning a new language. And a language learned later in life, scientists tell us, goes into a different part of the brain" (Prensky, 2001:2). The terminology associated with ICT presents real problems for adults, "many people remain confused by jargon, and it thus serves to separate insiders from outsiders, newbie's from digerati. Since knowledge is power, if you fail to catch on, you risk being left behind. You can't walk the walk, unless you talk the talk" (Goldsborough, 1999:55). Presley also believes that "knowing the lingo does instill a degree of confidence and allay computerphobia" (Presley, 1995:70).

# Chapter 3 Methodology

## Introduction

The general problem I wish to address is to determine how these adults talk about, understand and place ICT in their everyday lives and in particular, the individuals motivation and perception around learning ICT. In order to fully understand how these adults feel and place ICT in their everyday lives, I used one to one semi-structured interviews to speak to each person individually. However, I did not feel that I would learn everything by simply talking to these adults, my endeavours were to see and hear for myself what goes on in an adult beginners computer class to help me understand what helps and hinders adults on their learning journey. I wanted to learn how ICT was being taught to inexperienced computer users and how this learning was interpreted and understood by the participants. My research project was a two layered project consisting of interviews and participant observation.

## Setting the scene

The participants in my study ranged in ages and all were over forty years of age. Three of the participants were currently registered on a beginners computer class and five participants had completed one such course within the last year, two from the same centre and three from a different centre. I also interviewed the tutor who was currently delivering the beginners computer course but I have not included her remarks in with the participants. The interview with the tutor was to add to my own knowledge and understanding, in the hope that I could see from the tutor's point of view what it was like to teach adults ICT and ask her about some of her experiences both positive and negative that she faces in the class. All of the names and locations have been changed to protect the identity of the participants. The participants ranged in life situations from housewife to farmer to nurse to unemployed. Two of the participants that were currently registered on the course were known to me from years previous, but I did not know this until I attended the first night of the class. While my study sample cannot be considered representative, generalisability was not my primary goal. The main purpose of my study was to observe and talk to adult learners to uncover their understanding of ICT in their lives.

## Reflective practice

Bard defines reflective practice as "applying this thinking systematically by making questions, collecting data, and analysing it in order, not to prove something, but to comprehend and act upon reality" (Bard, 2014:1). This research allowed me to pursue a personal and professional interest that I have had for many years. Being a mature student

myself there are many elements of ICT that have caused me real distress and I have often wondered if I was the only one with such problems or feelings. But what I have found is something new, something that digs deep into social interaction and showed me that there is a lot more to my research question than I originally thought. My findings are not what I was expecting but possibly a real contribution to how adults view themselves in a formal learning environment and to the way ICT is being taught to them. Sociologists are always searching for strong social links that connect us all together but they do not seek it. Instead they get human beings and a very complex society, one that is fluid and constantly evolving especially due to advances in digital technology. Research can enhance the practice of teaching ICT to adults in a number of ways. The most important way is in the understanding adults have of their own learning and to remember that an adults willingness to learn is not an indication of their ability to learn. It allows for improving teaching and learning through reflection, action and research. Adults have a huge amount of prior life experience that can enhance their education and from my research it was apparent that this prior experience was undervalued. Due to time constraints the time adults do spend learning must be seen as a worthwhile investment to them. Research findings can inform teachers about the types of programs, instruction and supports that help adults succeed in their learning of ICT. According to Booth "reflective practice is a process of understanding and shaping your skills and abilities as you teach, not just assessing your performance at the end of an interaction" (Booth, 2011:xvii). The process of reflective practice allows for new insight and a person who reflects takes into consideration the experiences, emotions and responses and uses the information to build on his or her existing knowledge to reach "new meaning and a higher level of understanding" (Moon, 2004 cited in Chapman, 2013:1). Most of what we do in our daily lives is based on common sense, we learn from others through observation but sometimes it is not the correct approach. There can be conflicting theories about what works and what does not work in any given situation, or it might work in one situation but not in another. The purpose of reflective research is to find out what is good and to build on it, to find useable and useful knowledge that can help to make a difference.

Participant observation is defined by DeWalt and Dewalt (2011:1) as:

> a method in which a researcher takes part in the daily activities, rituals, interactions, and events of a group of people as one of the means of learning the explicit and tacit aspects of their life routines and their culture

The strengths of this approach are that it enhances the quality of data collected and interprets and builds trust, which enhances the opportunity of understanding the everyday life. It enabled me to learn about the activity of the people in my research in their natural setting, through observing and participating in activities. Fieldwork involves "active looking, short-term memory, informal interviewing, recording detailed field notes, and perhaps most importantly, patience" (DeWalt and DeWalt, 2011:21). A considerable amount of time is needed in the transcribing and analysing of field and interview notes. There is also the problem of establishing trust, which I feel is a very important element in the sharing of information and the participants need to feel assured that the information gathered and reported will be presented accurately. Previous knowledge of the learning and language was essential to allow me to become embedded into the everyday conversation, which was my overall goal. With the exception of two interviews, all others took place in the participants own home. This offered me an enormous advantage as the participants felt at ease which allows for the interviews to run more like a dialogue "a cup of tea and a chat" and some very nice homemade scones. I feel it is through people's subjective knowledge that real understanding can be acquired.

My participant observation spanned over a seven week beginners computer course. It was originally to be a five weeks but due to some broadband issues two extra nights were added. Participant observation allowed me to be present in the room during the lessons and I had time to sit, observe and help the learners during the classes. I was unsure of my role in the class when I first started. I introduced myself and explained to the learners why I was there and what I hoped to learn from being present in the class. But I also felt the need to assist in the class when problems arose or when I was asked by one of the learners for help. The very spacious room where the classes were held was bright and warm. The classes started at seven thirty, just when the need for artificial lighting was required and finished at nine o clock. The main entrance to the room was on the right side so when you entered the main body of the room was to the left. Just in front of you when you entered the main door were two armchairs with a small table in the middle with literature and photo albums randomly placed on it. The room was lined with chairs around the other three walls. When the learners entered the room they proceeded left where four, sometimes five small tables were lined up. The desks were small, just enough room to accommodate the laptop with no additional room for a notebook. The learners used the chairs beside them to hold such items. I seated myself

at the end of the line of desks furthest from the door, beside one of the learners and listened to the instructions that were being given to the learners by the tutor.

Participant observation allowed me to become immersed in the natural environment as an active participant and to record wide-ranging field notes. My field notes were written up after each class as I did not take notes during the class. The reason for this was in an effort to put the learner at ease. I felt that if it appeared to the learners that I was writing everything down that they might be afraid to act in their normal way. I did however write down key words to remind me of certain incidents but even this was sometimes difficult as I had nowhere to leave my pen and paper. My field notes were typed on my computer as soon as I arrived home. What seemed to me at first to be very trivial incidents that I recorded, proved to be of great importance especially when they were repeated class after class. My field notes were of great assistance to me in preparing for the interviews as certain incidents that occurred in the class had been noted by me and I was able to ask about these in more detail at the interviews. What can be seen on the outside may not always be a reflection of what is going on in the inside and my aim was to go below the surface and find the true meaning of my participants interest or lack of, motivation and experiences with digital technology. As the researcher I needed to be aware of who was present, who was meant to hear or overhear, the social status and kin relations of the group, who was the audience, the actual words said and also the way in which they were said. The only way I could accomplish such tasks was to interact with the participants. I watched how they interacted with each other and listen to what was being said, the way it was said and to who it was said. It was mostly my field notes that provided me with information, such as a background to each of the learners life. For example, it was during the second week of the course when I found out that two of the participants were man and wife and also what the participants occupation were. I was also able to determine from my field notes the ages of the participant without having to ask them. My notes provided me with various levels of knowledge and confidence of each of the learners, their interests and their level of patience. My field notes were instrumental in the preparation for the interviews and allowed me an insight into the participants life which I felt was missing from the other five interviews. Being aware of how the learners interacted with the computer allowed for the interviews to run more smoothly, more of a discussion about certain incidents that happened which I was not aware of in the other five interviews.

The main reason I choose this method was because of the rich data produced, the depth of knowledge I could acquire. I was aware that my presence did have an effect on the learners in the class and also did have an effect on how I viewed myself. Not being familiar with the course or the way it was taught I did frequently have to ask for help or ask the tutor to repeat what was to be done. I found this frustrating and confusing and felt a bit inadequate at times. I would often use shortcut keys when I use a computer and as a result I often struggle to remember the correct way to do things. On one occasion when two of the learners brought their own laptops, I tried to assist in the connection of a laptop to the internet, but not knowing the name of the broadband box or the password I failed with this task and had to call on the tutor for assistance. It was not my first failure during the course, by failure I mean that it was not the first time that a task was given to which I could not accomplish. If I was in my own environment I would have no problem with any such tasks, if anything I would be the one who is often called upon to assist my own family members with broadband or computer issues. But in the class I found that the concept of not being able to accomplish tasks in a beginners computer course embarrassing, I felt it undermined my present in the room as a researcher. Perhaps these were feeling that did not need to be present, I had never said that I could use a computer only that I was there to observe. Maybe I did not deal with the situation very well, perhaps it was an issue with my own confidence.

For the learners in the class I was aware that my presence did have an effect on them. This can occur for a number of reasons ranging from what they thought of me when we met, how I was dressed, how I spoke, if it was clear to them why I was there or if they thought I was there to pass judgement on them. What was inevitable is that my presence did change things. The students in the centre where I conducted my participant observation did not seem to be relaxed on my first night there. It was my hope that being present at the course for seven weeks would allow for this situation to be lessened. I wanted and needed the learners to be relaxed with me in the room. I did not arrange any interviews until after the third week, also in an effort to address this issue.

## Qualitative Interviews

In addition to my participant observation I also conducted eight interviews. Three interviews with adults who were currently registered on the course and five interviews with adults who had completed a beginners computer course within the last year. The informed consent consisted of two parts, an information sheet and the consent certificate that required a

signature by the participants. The consent form was given to each of the three participant and the tutor, on the first night of the class, and returned to me the following week. Of the remaining five participants, three received the form by email and returned it to me on the evening of the interview and with the remaining two adults, the form was brought with me on the evening of the interview. In this occurrence I spent between ten to fifteen minutes going through the form with them before they signed it and the interview commenced. I had previously spoken to these two participants on the phone and had outlined what I was interested in and that I wished to record the interview. I felt by eliminating any surprises that the interviews would run more smoothly. I did not offer the participants a list of the question in advance as I explained to each of them that I was more interested in hearing their stories and that my question were not predetermined. I asked if they were comfortable with this procedure and they all replied that they were. The interviews were arranged through face to face contact, email and phone. With the participants that I emailed the forms to, I included questions as to how they accessed the emails and printed off the consent form. Also the tutor's interview questions took a different form as I was interested in why she volunteered year after year in an effort to teach adults ICT.

The length of the interviews varied from thirty minutes to one and a half hours. My findings take the viewpoint of the participants making the data collected their truth. My questions were not fixed in advance which allows for new insights. My first question was always 'why did you decide to do this course' and this question in itself was not a straight forward question to answer. I found that in order to answer this question many of the learners had to go back in time to when the computer first appeared on the scene. I found in one interview that I had with Amanda, it was the only question I had on my list that I asked her. The interview with Amanda lasted one hour and it was during the interview that other question arose and I found that the information I gathered dug deep into her social interaction and showed that there is a lot more to my research question than I originally thought.

## Data Analysis

Analysis of data is a course, collecting, processing, cleaning then analyzing the data with the hope of discovering useful information. My field notes were typed up at the end of each class and saved on my personal laptop. The data collected in the interviews was transcribed word for word and a copy of the original transcript saved on my laptop. Using a copy of the original and referring back to my themes, each relevant theme was highlighted in a different colour highlighter. I used this procedure for both my interview and field notes. "The goal of

analysis is to develop a well supported argument that adds to the understanding of a phonomenon " (DeWalt and DeWalt, 2011:180). Miles and Huberman (1994a, 1994b) "suggest that all data analysis includes three fundamental activities: data reduction, data display, and interpretation and verification" (cited in DeWalt and DeWalt, 2011:181). With data reduction, I was aware that consciously or unconsciously some parts were documented and other parts left out. In an effort to compensate for this I read through the original transcript a number of times before completing my final transcript. I then looked through my data for inherent concepts and patterns. This was done by using keywords such as isolation, hatred, stupid, fear, motivation and so on. I then grouped the different patterns together in an effort to see what themes were present in each case. This allowed for the development of ideas about how patterns fitted together, what they meant and what was the cause. "Drawing conclusions and attempting to verify them takes place at every stage of the research process" (DeWalt and DeWalt, 2011:203). By using primary data I was able to analyse and record new information in the hope of being able to better assist in future adult and ICT based learning.

My ontology would be orientated towards constructivism as I believe that we come to know through our interactions which suggests that "reality is socially constructed" (Mertens, 2015:18).

> Constructivist researchers go one step further by rejecting the notion that there is an objective reality that can be known and taking the stance that the research's goal is to understand the multiple social constructions of meaning and knowledge
>
> (Mertens, 2015:18).

If our reality is socially constructed then the meaning given to an event could be different for each person based on that person's background or the knowledge from which they draw on to make meaning of an event. For example, a simple task like turning on a computer is based on the knowledge that a person understands what a computer is and understands the language associated with the computer. To help understand what is meant by socially constructed I have chosen to look at my research through the lens of Interpretative analysis. This lens will allow me to engage and interpret elements thus adding a human interest to my study to show how a person in any given situation makes sense of a given experience.

## Ethical Aspects

"Researchers must be aware of the ethical considerations of research from the point at which they choose the question to be asked, through the choice of a population in which to study it, the methods to be used to collect data, the recruitment of informants, and publication"

(DeWalt and DeWalt, 2011:211). The main ethical consideration in research involving people is to avoid causing harm, maintaining privacy, maintaining anonymity, maintaining confidentially and allowing the participants to understand and give informed consent (DeWalt and DeWalt, 2011).

My informed consent consisted of two parts, an information sheet and the consent certificate that required a signature by the participants. The information sheet consisted of a brief overview of my research project and details of my name, my phone number, my email address, the name of the organisation to which I am affiliated, name of project, name of my supervisor, his phone number and email address and also the email address of Maynooth University Ethics committee.

I stated in the informed consent that the information recorded was confidential and that no one else would have access to the information documented during the interview or in the class. The entire interview was recorded and when I transcribed the information no one was identified by their real name. "A researcher protects the anonymity of the informants, for example, by assigning numbers or aliases to individuals" (Creswell, 2013:174). With the extensive use of computers in qualitative research attention is vital in the storage of qualitative data. Backups of all my files were created and saved under alias and as my phone was used in the interviews as the recording device, all files were deleted from this device. The files are stored on my personal laptop only and will be kept by me in my home and will not be available to anyone else. I will keep these files for six months after which they will be destroyed and this information was shared with each participant.

I included in the informed consent and also talked through with each participant at the beginning of the interviews, that what I document for my research would be made available to them to read and check. If at any point they wished to make amendments it would be possible or if they felt that I misunderstood or made wrong assumptions that they had the right to ask me to change it or if they wished they could withdraw their statement before the final draft was completed.

Participation in my research was voluntary and there was no pressure put on any person to participate. The option to stop participating in the interview at any time without any reasons being provided was also highlighted to each participant.

While I viewed my research project as not being a subject that could cause any great harm, I was aware that in the telling of stories especially going back over a number of years that memories or events could give rise to feeling of anxiety, loneliness or depression. I did some research on a local Senior Help Line, which is a confidential listening service for older adults, in the hope that if any such incidences occurred that I would have the information to hand. Thankfully I did not encounter any such dilemmas and all of the interviews ran very smoothly.

# Chapter 4 Findings

## Introduction

This chapter is divided into two sections, the first part describes what I observed over the seven weeks doing participant observation in the class and the second part is the participants own perceptions and experiences of ICT. The focus in the second part is on the people's subjective experiences and their interpretations of the world and ICT, which allowed me to understand how the world and ICT appears to them. Although ICT is often viewed as a good thing by the participants it can also be seen as a curse by them. It gives rise to feelings of inadequacy, isolation and can have a negative impact on the lives of these adults. Some of the participants had successfully avoided using ICT, they still wrote letters, looked up phone numbers in the telephone directory and got quotes for insurance or heating oil by ringing around the adverts in the yellow pages. It was becoming obvious to them that their evasion strategy could not work forever as digital technology was infiltrating all areas of their lives and it was becoming increasingly hard to ignore or resist its use. The participants felt the time was here to stop thinking about digital technologies as separate from their lives. They needed and wanted to embrace digital technologies and my research is an effort to help them with their quest. From my research four major findings have emerged and these are:

- The understanding of self in relation to ICT.
- How these adults underestimated their own informal knowledge.
- The pressure that was felt by the participants to partake and the conflicting reactions, beliefs, or feelings towards ICT.
- The social element to learning ICT

The class was a beginners computer class for adults and from the tutors comments in the interview, it was assumed by her that each of the adults participating had absolute no knowledge of using a computer. The tutor was a volunteer who had been teaching this adult beginner computer course for many years. Her class plan was to enable the learners to use the mouse and become familiar with the cursor position on the screen. The course was internet based and it was mainly about finding your way around the internet, searching for sites and explaining how the search results were returned and displayed. The tutor explained how to narrow down searches so that the search results were not from every county in the world, if you were only interested in Ireland.

## What I observed in the class

The tutor arrived a half hour before the start of class and set out the tables and the laptops for the learners. It was a small group of four, three women and one man. The atmosphere was friendly but also a bit strained. Those silent pauses felt uncomfortable and the learners did not seem to understand what was expected of them in the class, should they get stuck in or wait for instructions? The learners made small talk with each other while they waited until everyone was present. In my first class (the second class for the learners as I had missed the first one) the learners were told by the tutor that there was no need to be afraid of the computer that there was no key they could press that would do any harm or damage. In my opinion this was a very useful point to get across to the learners. There was no real reaction from the learners to this comment. They sat and looked at the tutor, their hands were nowhere near the keyboard and nodded in agreement. The purpose of this comment was in hopes to relieve any anxiety they might be feeling in an effort to try relax them and make them feel more comfortable. I observed how the lack of basic keyboard skills really delayed the tasks given. The amount of time taken to type a sentence was too long and from the moment the typing commenced until the last letter was typed there were no eyes on the screen. I did interrupt Maureen a number of times just to say that the cursor was not where it was supposed to be and she would look, see this was the case, position the cursor back to where it should be and her focus returned to the keyboard. This appeared to me as a huge setback in the learning process as mistakes were made very often during the typing of words.

The class on my first and second nights ran without many incidents but on the third night the broadband was very slow. The laptops were connected but because of the amount of time needed for the pages to load the class ended a half hour earlier. On the fourth night, again there were issues with the broadband which delayed the start of the class. Finally the tutor got two laptops connected but they ran very slowly. In this fourth week there were only three participants left, as one had dropped out. The laptops ran at the speed of a snail and it was frustrating waiting for the pages to load. It was on this night that the learners looked at the Ryanair website and even though the pace of the broadband was slow, two of the learners thought that the class was very useful. On the fifth night with only two learners present, again broadband issues but this time they could not be resolved. After various attempts to correct the issue the class was cancelled and the learners sent home. The learners were told that there would be an additional night added to make up for this, which all were very pleased about. On the sixth night the broadband issues were resolved and normal classes resumed with three

learners. This night was on Google maps and all of the learners seemed to enjoy this task. This sixth night was to be the final night, however the organiser felt that one more night would be of benefit to the learners especially after all the issues with the broadband and without any additional cost to them. The last night, the seventh night, consisted of filling in an online form about the course content and delivery in order to justify the grant that the students had been given. This form was read through by the tutor step by step and all three learners did not encounter any problems filling it in.

I noted at the start of each class there were a set of instructions given about what was to be done but inevitably fifteen to twenty minutes into the class the learners start subverting a little bit. They started to look at their own things or started to chat among themselves. This holds especially true when the tutors attention had been taken up with another issue. The adults sat and waited for a short time then started chatting to the person beside them. Then together, both using the same laptop they tried to move forward with the task. I have witnessed this in almost every class how the backup of a fellow student gives the individual that little bit more confidence to move ahead whilst on their own they would just sit and wait for the tutors attention to return.

During my participant observation I observed notes being handed out in two of the five classes (excluding the two classes which experienced broadband issues). On one occasion one of the learners forgot to bring the notes and felt a bit lost and repeated to me many times during the class that she wished she had them. I asked during some of the interviews if they had thought of making their own notes but each time the participant would laugh and say something like, 'yes I know I should". When I asked Monica in the interview why she never took notes she replied

> God I'm slow enough, if I was to start writing it all down I'd be totally lost.

There seemed to be an issue with being slow, a word that had been voiced many times during the classes and the interviews. When I asked Maureen about taking notes she replied

> Well I know, (daughter) said that to me when I came home, she said, did you take notes? I said no - sure I hadn't time_- you see I'm not quick enough to write notes and to take in what she was saying to me at the same time.

There appeared to me to be a pressure on the participants to learn quickly, the thought of writing things down would only slow them down and they felt they needed to keep up with the class, that was their main priority. Maureen told me in the interview that her granddaughter had written down some steps for her showing her how to use her own computer at home and she found these very useful. My observations did show that there was no provisions for this to be done on the course. The tables were too small, only just enough space for the laptop and there was not additional room to allow for a pen and paper. Not once during the seven week course did I observe any of the learners taking notes.

Another observation from my time in the class was an uncertainty about what they wanted to use the computer for. When the participants were asked if they had anything they were interested in the usual Ryanair, internet banking, taxing the car were mentioned. All of these sites entail buying or paying for something. I would consider myself a fairly good computer user but the Ryanair website has 'tricked' me on a number of occasions. These sites seem to be overused, to the point of being nearly irritating. How ICT is perceived by the participants does appear to me to be the full picture. To them it is about time saving jobs something that will help them in their busy lives, what everyone else does so easily. The Ryanair website is a complex site and there is a lot to read, take in and understand and it does not give the user the luxury of making a mistake.

I have briefly outlined to you my experiences of participant observation in the class and what I feel are important elements of the class that hindered and helped the learning process of the participants. I will discuss now the views of the participants, their own perceptions and experiences of ICT. This research focus is on adults experiences on an introductory ICT course and in the use of ICT in general. I am interested in how adults understand ICT in relation to themselves, how they place it in their lives and how it is relevant to them. I am interested in motivation and the nature of the learning process that takes place on a beginners computer course and how the participants encountered ICT in a formal learning environment.

## Understanding of self in relation to digital technology

The eight interviewees all came to the course with fixed ideas and experiences of using ICT. According to the participants there is a generational divide which to them is a significant divide, enough to make them feel that they are marked as outside. These adults experience this change as something a little outside of themselves, something that is changing their lives, changing their interactions in a very fundamental way. What my research has uncovered is

that ICT is affecting in a very profound way, how people are experiencing some of the relationships with other people. They are seeing friends and family interact in different ways and this is putting a pressure on them to redefine themselves. What these adults have done is undertaken a challenge, they are trying something new something they do not feel fully comfortable with. They are stepping out of their comfort zone and rising to the challenge. But they harbour a fear especially about the computer and it is not fully understood even by them. This is the reason these adults have ended up on the beginners computer course, it is part of the motivation behind their journey. They have taken the first steps to overcome these feeling and each with a positive outlook on how they hope their journey will proceed. They have set their goals and are refusing to be left behind or be left out of various events which have previously caused them distress. My research is an effort to help them on their journey by highlighting obstacles that stand in the way of learning which need to be fully understood in order to help them succeed.

A feeling of being isolated is a very powerful feeling and one that was voiced in all of the interviews that I conducted. The feeling that things are moving so fast and they are being left behind and now, these adults are so far behind that it appears to them to be a massive task to catch up. That overwhelming feeling that there is just too much to learn kept these adults away and kept them delaying the start of their technological journey. They were starting to feel that they were being alienated from their family and friends, alienated from their favourite radio shows, shopping, gossip, local news and so on. There is also an enormous sense of fear. To the participants the root of this fear could not be narrowed down, it covered such a wide area of feelings that it was not just about one specific thing, it was everything.

Kaianne talked a lot about these feelings during the interview especially isolation and she stated that it made her sad at times to be looked at by her children as 'stupid'.

> Maybe I feel it more, but I know I annoy them (her children). When did I go from being the mother who knew it all, who was 'almost' never wrong (laugh) - to some old stupid feckin' woman who knows nothing? I know that's what they think. Things have changed and I got left behind and it's too late now to ask for their help, I feel like I'm on my own.

There was a sadness to the way she spoke, a disappointment in the way life was changing for her. She felt like she was on her own, isolated from her family. I asked her what she meant when she said it was 'too late now to ask for their help' and she replied that she has been asking them for so long now to do things on the computer that they had lost all patience with

her. She felt that a barrier had been formed between them and as soon as any subject was mentioned regarding the computer that their eyes would roll and they would sob and sigh, indicating that the request was a burden to them. As a result Kaianne would do things the old fashioned way. She would pick up the phone and ring around for insurance quotes. But even this was not always successful. Kaianne sometimes found when her family were together, and she would mention that she got a great deal from some insurance company, there would be remarks such as "Ahh mam - why didn't you try 'X' insurance, they're giving it at 100 euro less, you should have asked me to check".

Kaianne's view of the situation was that she viewed herself as being a burden to her children and this upset her. This issue of isolation was not only highlighted in Kaianne's interview. It was voiced in seven out of the eight interviews that I conducted. In the interview with Lorna this isolation was felt by her in more than one area of her life.

> That's another thing that used to annoy me, cause I play the radio from early morning till late evening, and more and more as the years are going by, they used to give you, send it to this address, or ring this number and then they stopped saying the address or phone number and they'd start to just give - www. They don't know that they are actually excluding a whole load of people who don't have a computer, or if they have one, or there is one in the house but they don't know how to use it. So I did feel I was excluded from a lot of things simply cause I didn't know (Lorna)

Lorna also had issues in asking her children for help, she too found that their patience with her was very limited but the time saving element of using ICT was worth her asking one of her daughters or her husband to do various different tasks for her. But in return for asking she felt like a nuisance, she felt that she was becoming a burden to them. She did not ask as often as she would have liked to. These issues have resulted in a change in how she views herself as she explained how she would ring around looking for the best price for the home heating oil

> I needed oil in my oil tank and I might say to somebody I have to go home now and ring - get out the telephone directory and ring all these people and see who has the cheapest oil. I was talking to a girl one day and she said to me, "emm, is that what you're going to do"? I said yeah, anyway and drove home. Ten minutes home and she sent me a text saying "the cheapest oil is such a such a place, such a such a phone number - good luck". I said, she was able to do that and I would have been hours trying to ring up and write down the different prices, she was able to do price comparisons - right and let me know that.

Lorna explained how this girl had used a price comparison site and she did view this as an amazing time saving task, but there was something else she seemed to be reluctant to say. She stared at the floor for a few moments wringing her hands together, then went on to talk about her daughters and how she was always asking them to do different tasks on the computer for her. She fully realised the time saving benefits of using ICT but because of her busy life she had no time to learn. I asked her how that made her feel, the fact that someone was able to search for the information that she wanted and have a result in minutes. She looked at me and smiled, but she did not answer the question.

This feeling of being isolated was also voiced by Tara who said:

> I'm embarrassed that I have no computer skills, I did a (course) a few years ago and my daughter did all the typing for me... I did everything in long hand. I feel I am being left behind, everywhere you look is Google this and Facebook that and to me it's another world. When the girls were at home they did it for me - sometimes - but now I'm on my own.

Lorna, Kaianne and Amanda never had a problem asking their children for help, in the beginning that is. Now, they feel like they are a burden and that they are annoying their children by asking.

> In the beginning I did ask but she would be like "Aww look I'll do it another time", bit impatient and she's the one that's at home more. (Daughter) wouldn't be the most patient or tolerant person in the world but I suppose when you're trying to do something and you're mother is annoying you what do you expect. She'd give me a few minutes but then she'd say "for god sake, I've told you, I told you that already, move (emphasis on word move) the mouse (Lorna)

> I'd ask my daughter yes, and I know it annoys her, she's always so busy but she does it but when I sit beside her to ask what she's doing I'm slowing her down, she's so quick, click this, click that click click click, I haven't a clue what's she's doing and I ask her, what are you doing, or what's going on but she'd say, don't worry about it, it's just crap, but that's no good to me, it means that I have to ask her to do it the next time as well but if she'd just showed me (Kaianne)

> It was fine in the beginning, was sort of like a bonding thing where they'd sit with you and show you, they liked showing off, ya know, something that they knew that you didn't. But now I just feel stupid, like I should know and they haven't the patience with me anymore (Amanda)

The view by the participants of being a burden and an annoyance to their children is something that they are not at all happy about. It undermined their status in the family and made them feel alone. ICT has changed their lives, changed their understanding of

themselves and the understanding that their children have of them. Fear is a concept that was repeatedly used in every interview, fear about being left behind or of not being good enough, of failure, of isolation. The precise source of the fear seems to be unknown even to them. When I asked 'when you are sitting in front of the computer in the class - how do you feel?" Some answers to this question were, scared and nervous so I pressed just a bit further in the interview with John and asked him 'scared of what'?

> The whole thing really, it's not just one thing there's so much and I wonder if I'll ever be able to get it. So - it's scared of not knowing, of looking stupid, of even starting and not being able to finish, awww look it's huge - I have no idea and I don't even know if I want to, I don't even think I have the energy... (John)

The precise source of the fear cannot be determined from my research but the amount of fear seems to be overwhelming. Because of the growing generational gap these adults are unsure how to deal with ICT, or even if they want to deal with it.

> I don't trust the computer... and I don't feel comfortable with it... I am comfortable with most other technology but not the computer, don't understand it (Tara)

> I suppose I was always afraid, afraid when (daughter) would come home, that I would erase some of her stuff, or that I'd do something wrong or damage the computer... I've always disliked them (computers) I don't know why (Maureen).

During my participant observation I observed these fear noted by the tutor but from the interviews it was apparent that the reassurances offered were not enough, the fear remained.

## Underestimated prior Informal knowledge

All the participants had recently signed up to a beginner computer class, yet in all of my eight interviews there was evidence of quite a lot of varied computer knowledge. When I asked them about their level of knowledge of the computer they all replied that they knew nothing. They were very eager to learn but presently they were at the beginning and they felt they needed to be there. The varied knowledge that was recorded by me included, virtual tours of various houses, another used 'skype' to talk to their son in Australia quite often. One participant used internet banking and email, yet she did say that she could only check her email she never actually sent one. Two of the participants were expert mobile phone users yet they stated that it was different to using a computer. Five out of the eight participants frequently checked rip.ie for the bereavement notices and both of the men were frequent visitors to the done deal website.

## Where to begin?

Despite having this ICT knowledge in relation to certain tasks and applications their knowledge was fragmented and incomplete and one simple but important factor emerged as an important finding and that is how these participants underestimated their own informal knowledge. What is interesting here is that out of the eight participants in my research, only two said that they turned the computer on themselves. The problem for these participants is that they did not know where to start. When I asked why they did not turn the computer on themselves, the response from six of the eight participants was that their children or partner would done it for them.

> I always run into problems with it, I think it knows that it's me (laugh). I know where the button is to turn it on but connecting to the broadband thing, or all those pop ups, take me ages to get started so they just do it for me. Don't get me wrong I have tried, but it never works out - I'm telling you it bloody knows it's me (Amanda).

> I know where the button is, yeah I do know how to switch it on but it's not as easy as that. Connecting to the internet, or what do they say - just reset the box, there always seems to be a problem, it never just starts (Monica)

> I can switch it on but it's not as easy as that - is it? ... I can't find where I want to go, you're looking at the screen and that's where I get lost, what do I do then, you know, where do I go to find my bank? (Kaianne)

> The kids just do it, I'd say get the computer for me and it's switched on when it gets to me, they just do it, I don't know the password anyway, they keep changing it, is a bit like trying to keep the kids out only they trying to keep me out (laugh but then serious face) - I haven't a clue what they do on there you know (Jack).

When I asked Amanda, Monica, Kaianne and Jack when was the last time they turned on the computer for themselves, before commencing the course, they all said it was years ago but also commented that they still do not turn the computer on themselves. When I asked why this was or if they were implying that nothing had changed even after doing the beginners computer course the previous year Monica replied.

> I am a bit more confident after doing the course but my husband would still have to set the laptop up for me and then I'll have a go.

When I reflected on this statement later it occurred to me that even in the course the laptops were already switched on and the account logged into before any of the learners arrived. An essential part of any project or task is the beginning and in this case it is turning the computer or laptop on.

## Mixed abilities

The problem of mixed abilities was mentioned in five out of the nine interviews (including tutors comments). When I asked the tutor if there was any way in determining what computer skills any one person had before they started the course she said that it was an impossible task. Everyone considered themselves a beginner and apart from doing some kind of a test which she felt would not be appropriate, adults tended to play down the amount of computer skills they actually had. All of the adults I have spoken to who registered for the course or who had completed a course would still class themselves as knowing absolutely nothing about the computer. But these adults have been around ICT for years, they have watched and heard their children, friends, and work colleagues talk about and use it. These adults have witnessed events using ICT that if you put them together could reveal valuable understandable learning for adults. Understandable in the sense that the learners can discuss it with each other in a way that is understandable to them, to use Prensky's (2001) analogy, they can communicate in their own language and not in the often confusing jargon of ICT. For five of the participants in my research the knowledge that there was someone in the class who knew more than they did was off putting. It reinforced the lack of computer skills they had, and made them feel slightly inadequate.

## Obligation felt by participants

The obligation felt by the participants to partake, the force of ICT and the power it has on their lives, seems to be giving them no option but to partake. These adults see it as something they have to do but they do not fully like it, and are not fully comfortable with it. There was a profound ambivalence felt by each learner, conflicting reactions, beliefs, or feelings all of which were directed towards ICT. These adults tend to present their motivation to learn about ICT in one way to the teacher, 'time saving', 'useful' but then discussed it another way with each other, such as Facebook or shopping. This was noted through comparison of field notes and interview notes, what was said in the class did not correspond with the interview notes. The shifting societal expectations of ICT is changing the role these adults have in society.

In two of the interviews when the discussion of security came about, a recent Prime Time (2015) broadcast came into the discussion. The programme was titled, "how safe is the information you put on line?" The aim of the programme was to find out how much can be found out about you online and proceeded to instil more fear into the participants, mainly the

fear of being robbed. Programs such as this serve to give the participants a fresh realisation that they really do not know what is going on and that they are way out of their depth and this scared them. The issue of security, mainly of being robbed came up in five of the eight interviews.

> Been hearing from this girl down the road...who's buy's all her clothes on rosegal.com, and for nothing, well so she says. Would love to be able to have a look alright, think I would like that but I wouldn't have a clue about putting my card details in, ya hear stories and me, bloody stupid, I haven't much but I don't want to lose what I have (Monica)

> I feel stupid enough not knowing ya know what I mean but imaging if I got ripped off on there, they'd have a right laugh - can you imagine them saying, that edgit, what did he think he was doin' on there, I'd never live it down. (John)

The struggle to keep control of their surrounding is a job that these adults have spent all their lives accomplishing and now this wall that they have built over many years to keep the dangers out, is under threat and they feel that they have no choice but to learn or be left out.

Five out of the eight participants in my research felt that keeping their children safe was a major concern. They worried constantly about what their children were doing online and who they were talking to and in order to protect their children they had to understand ICT, and this was a big motivational factor for some.

> When the computer first came into the house, kids were small .. Now, they have iPods, iPhones, tablets, Xbox, playstations, and they can connect to each other through the internet and I have no idea who they're playing with. I've sat on the bottom step of the stairs to listen to what was being said - it was all "game" talk but it is still a worry, how do I keep him safe, he doesn't understand the dangers ... but how? he won't show me, doesn't want me near it (Kaianne).

> They (children) always have something in their hand, iPods or tablets. (Child) used to play his DS and that was fine, he could take it or leave it, but for Christmas he got this iPod and he's never off it, it goes everywhere with him. He connects online to other players, I have no idea who he's playing with. I talk to him about the danger of strangers and all, but that is the old fashioned way you know. Now it's different, I'm sure there is another way to explain or put some setting on it or something, anything (Monica).

The sense of duty felt by Kaianne and Monica to protect their children was clear and they worried that they would not be able to if they did not understand or know the right way to go about it.

## Mobile Phone Technology

Adults in my research see ICT as something they have to do but they do not fully like it and are not fully comfortable with it. The prevalence of mobile technology has altered the habits of society and this is a source of positive and negative feelings amongst the adults I interviewed. They believe that being able to contact their children in an emergency was great, but that a phone was a phone, they make clear distinctions between a phone and a computer. Every participant had a mobile phone yet they played down the amount they could do with it. John and Tara were the only two participants who used their mobile phone to its full extent, yet when asked in the interview with Tara what type of a phone she had, she replied "I think it's a iPhone 4, I think, I'm not sure". Tara's line of work made it vital that she was contactable at all times and she did not seem to have a problem with this. She stated that before she had the phone she used to have a beeper so being contactable was a priority for her. John stated that:

> My mobile wakes me up in the morning, it is the first thing I do, check my phone. Even if I wake up in the middle of the night, I'd check my phone. To me it is a very important gadget, I practically run my business from it, I'm conditioned now, couldn't do without it.

I asked him about connecting to the Wi-Fi or using the cellular data option and he was confident with each step. He could use the location tracker, personal hotspot, and even had an iCloud account. But yet John had, only last year, completed a beginners computer course. I was fascinated with this scenario and asked him about it. He began by saying that there was a big difference between a computer and a phone.

> I can turn the computer on ok, and get into done deal but if something goes wrong like the Wi-Fi, I couldn't fix it. It's different you know, it's not like my phone (John).

I felt that John had a misconception about the difference between a computer and a mobile phone but he was adamant that there was a big difference. This idea that the phone and the computer were separate entities was voiced by seven out of the nine participants (including tutor's comments). Doing the analysis of my data it was unclear to me if some of the participants thought that there *was* a difference or that there *should be* a difference between the phone and the computer.

The original purpose of the mobile phone is still the same, and all the participants, at least occasionally, used their mobile to make a call. Modern phones such as the iPhone or Smartphone's are like computers. They store data, they connect to the internet and they run

applications. It is possible to download any 'app' for a mobile device such as RTE player, Donedeal, Whatapp, Facebook, twitter and many more. You can catch up on the latest episode of 'Fair City' while you wait in the doctors surgery, using your mobile phone. Seven of the participants in my research had a very basic phone and had not really put any thought into getting an upgrade.

The use of the mobile phone by the younger generation and of friends was, at times found to be frustrating by the participants, statements like

> when we are going out for a cup of coffee and they are texting - that kills me. I wouldn't say anything but you know even at work, someone comes over to your desk and you in the middle of something and you see them on the phone and you'd feel like saying, will I come back to you? (Marta).

Many of the participants found that the mobile phone came between them and the person they were talking to.

> you never have 100% of someone's attention anymore, either they are in touch with someone or someone is ringing or texting them. My daughter would send a text while talking to me and she wouldn't think anything of it and it wouldn't take from the conversation on her part anyway, their brains are wired that way, but yes it annoys me sometimes (Tara).

## Is it all about ICT: The social dimension

Maureen loved the course, she loved the social side of it and it alerted her to things that she had not been aware of and gave her an interest in digital technology.

> I needed something, stimulus, because my memory is going, at my age you know, I'm much better now since I started getting out of the house... I didn't sign up for it at all, it was (daughter) that signed me up for it ... I didn't really have that much interest - you know, I always hated computers, hated the sight of them.

Maureen praised highly the course content and the tutor and if there was one thing she could change and that would have been to have one to one lessons, she felt she would benefit much more from this. Maureen was put out a bit by the fact that the learners in the class were not all of the same standard, as in beginners. She thought that the others knew a lot more than she did and she put it down to her age and the fact that she thought she was slow when it came to computers.

There was a good deal of positive feedback from the participants

> I love the class itself, it's not moving fast and anything we learn we can hold (Tara).

> The more I do it the more I'm starting to really love it and I want to do more and more (Lorna)

> Loved going to the course and I miss it, you know it's nice to go and talk to the others, nice to know that I'm not the only 'thicky' in the world, ya know what I mean, we're all in the same boat and it's good to hear someone else's horror story, makes me feel bit better anyway (Jack).

But the most memorable statement came from Lorna when she said:

> your family has a lot to do with it - was only after I started dating [husband] he said "why don't you take driving lessons" - I'd think "driving lessons, sure I'm never going to be driving" God, say if I crashed, I had no confidence, you know. So I guess he encouraged me to take lessons, but didn't have a car for donkey's years, but like that it's just telling a person "you can do it" - try you know. Don't rule it out. I used to rule things out, unnecessarily, and that's something I would not say to other people if they're saying "Oh I'll never do this or I'll never do that". I'd say well don't rule it out, why don't you try, to encourage other people to do things, to try things (Lorna).

The positive attitudes from all the participants was great and the interest to learn more and more was apparent from each.

### The new language of ICT

When it comes to law, psychology or even medicine, there is a language associated with each discipline that for an untrained person in that area can often be off putting and confusing. ICT is no different. It uses its own terms and phrases that are sometimes heard by the participants but not fully understood, but it has become the way we speak. When the terms or phrases are not fully understood it can create an setback in the learning process for adults.

> I know the context to use it in and sometimes even use it, I'm really winging it cause I thinking I'm not actually sure what this word means, but I'm using it in this context anyway (Lorna).

Other phrase that are bantered around all the time are megabytes or gigabytes. When I asked Jack about the terminology, if he understood what a megabyte or gigabyte was, he replied:

> It's something to do with the memory, think a gig is biggest but I wouldn't be too sure - although my son said that a gig is not actually that big and what he would look for was - aw god - something to do with a terrier that bites, that's what I thought when he said it anyway.

My point here is that it is very easy to get confused as to what exactly the words mean. The word is known as part of the computer language, and gigabyte is known to be associated with

the memory of a computer, but how big it is or where it is stored is unknown. Even with mobile technology there is an issue with the terminology used. It is very easy to assume that we know what we are talking about because we have heard the word so many times. Lorna said in her interview that she was interested in buying a new computer but did not have the slightest idea what to get, or what she needed. Jack also was interested in buying his own laptop. He had been to a shop but this event only seemed to further reinforce to him the fact that he did not know what he was talking about.

> What I wanted to know was - is it fast, can it connects to the internet, has it that tooth thing... has it a good memory, ya know to save photo's and crap. What I needed in that shop was a bloody translator, to talk to me in English, but you couldn't ask them in the shop, god you'd look stupid (Jack).

The assumption that even the most common terms are understood seem to be, from my research, a misconception.

> I didn't know that that happened (Lorna swiped her phone screen from the top to bring down the notifications), and I don't know what to do so I just say off !! ... It's all beyond me - I don't know what a widget is - it's a stupid thing (Lorna)

> I find if I get into, into, you know the, sorry - I don't have the vocabulary, I don't know the right words (Tara).

The new language of ICT, like learning any new language can be difficult. The participants in my research seemed to know a lot of the phrases but they lacked confidence to use the words because they might get the context wrong. This has a negative impact on their confidence. Any prior ICT knowledge that these participants have is undermined as they cannot express what they know in the language of ICT. They know in their own head what it is they want to say but finding the right words is a problem.

# Chapter 5 Discussion of Findings

## Introduction

In this section I want to firstly highlight my findings and then discuss them in relation to the key adult education theorists, in an effort to explore what contributes to good or effective learning in a beginners ICT class. The findings from my research showed that these adults consider themselves separate from ICT. To them it is a different world, a world that they are not a part of. They feel isolated from their family, friends and work colleagues and this is having a negative impact on their everyday life. Casey (2009) also found that the lack of digital literacy was becoming important in everyday life and individuals who could not or did not partake felt excluded, left behind and alienated. The participants feel that they have been left with no choice but to catch up, or be left behind. Fear was a major concern. In theory these adults knew what had to be done but in reality they did not know where to start. They were scared but the exact source of the fear could not, from my research be pin-pointed. It seemed to be coming from everywhere, fear of isolation, of failure, of not understanding, of looking stupid, fear for their children, of not being able to keep up, overall it was the fear of change, a fear of the unknown power of ICT. Casey also reported " I have observed people shaking with fear as they first moved a mouse or typed on a keyboard" (Casey, 2009:19).

This fear was overshadowing something else, something very important that these adults needed to be aware of themselves and that was their own prior knowledge of ICT. These adults have been around ICT for many years and have seen, heard and talked about ICT on many different occasions. This means there is prior knowledge and experience and this valuable resource has, from my research gone untapped, unnoticed, and undervalued. To the adults in my research the learning was social. They were not on the course or had not completed the course for financial gain or a better job. They did it for themselves, to find a way to re-enter a world that was they felt was leaving them behind.

There is a generational divide perceived by the adults in my research, and to them it is a significant divide. These adults experience this change as something a little outside of themselves, something that is changing their lives slowly but in a very fundamental way. This is creating a pressure for them to redefine themselves, but there is a fear, the source not fully understood even by them and covering such a wide area of feelings. Efforts to address these fears are crucial. In an effort to address this issue the learning environment should be taken into consideration. Rogers (1969) suggests, "that the learning environment should not

be a place “of lifeless, sterile, futile, quickly forgotten stuff which is crammed into the minds of individuals” (Rogers, 1969:3). It should be a nurturing and positive learning environment, with staff who have positive attitudes towards adult learners. An initial step towards a nurturing environment is to acknowledge the anxiety present (Ben-Jacob & Liebman, 2009). Using Rogers (1969) core conditions of congruence, acceptance and empathy, it is possible to make a learning environment that will reduce anxiety and in an ICT setting, these core conditions have real value. The strength in Rogers approach is in the relationship between the facilitator and the learner, “learning rests upon certain attitudinal qualities that exist in the personal relationship between the facilitator and learner” (Smith, 1997). It is important for the learner to feel relaxed and comfortable in their environment, and with any anxiety reduced the space to learn is greatly increased. Creating a safe environment can allow for the learners to ask questions and start to recognize the value behind learning to use a computer. Rogers (1969) non directional approach views adults as self-directed and if self-directed in life, then they too should be in learning. With this in mind, in order to reduce anxiety adults would need to feel that they have some element of control, and in the beginners computer class this did not appear to be the case. The learners were unsure of how to act, talk or on occasion even feel, resulting in the learner not being relaxed. This is a fault with how learning is approached in general and how we think about educational spaces. Each adult is different creating a need for individualization of teaching. The best resource for learning exist in the adults themselves. Casey believes that "we need to deal with learning not as some isolated activity that we engage in from time to time but from the perspective of what we do—what we make of it—and, in particular, what it means to live and learn as adults in a world permeated by new technologies" (Casey, 2013:45).

Rogers (1969) believed that for a person to grow they need an environment that gives them openness and self-disclosure, unconditional positive regard and the space to be listened to and understood. Without these a person cannot develop as they should. Rogers (1969) vision focused more on helping the individual to help themselves. There has been much research done on positive attitudes, Casey (2009) believed that the designers of e-learning should plan to bring in the positive idea of the digital world. Segrist (2004) found the more adults learned the more comfortable they felt, and Rogers (1969) believed that when interaction is positive, a person can develop and flourish in any area and this is true of the participants in my research. Casey also reported in his research that participant choose "pathways of learning

that are directed toward task and activity-based competences rather than academic qualification and career progression" (Casey, 2009:125).

While humanist ideas are useful for thinking about the individual, and a person's natural desire to learn, to explore how individuals learn I choose to look at Knowles theory of andragogy. Knowles defines andragogy as "the art and science of helping adults learn" (1980:43), which implies that adult learners are self-directed. Knowles believes that adult learners draw on prior life experiences in the learning environment, but for the participants in my research, their prior life experience with ICT came with a lot of negative thinking and feeling. While I feel self-direction is the overall goal, the adults in my research were not ready for that just yet. It appeared to me that there was something missing, some basic knowledge which is of such importance and the cause of much distress.

I believe Lave and Wenger's (1991) theory of situated learning is very relevant to adults engaging with ICT. Lave and Wenger (1991) noted most learning happens in informal settings and in the context of everyday activities (situated), through discussions with more experienced peers. They suggest that the learning is unintentional, and that it is through these informal gatherings that skills are learned, practiced and perfected, what Lave and Wenger (1991) called 'legitimate peripheral learning'. They use terms such as newcomer and old-timer to represent the master-apprentice (novice-expert) link, and to distinguish between the person who has the knowledge and the apprentice who is working in the ZPD. Their situated learning theory sees social interaction as crucial, where the beginner or novice move from the periphery to the centre, and becomes more active and engaged within the culture. The newcomer is given the opportunity to learn by engaging in small tasks and when they have eventually mastered the skills required, then the student becomes the master and takes responsibility of mentoring the next newcomer. During my participant observation I observed how the learners, when the tutors attention was taken up with another task, would work together and try to move on with the task in hand. This is an important element in self-direction, fellow learners “who struggle and overcome learning challenges with significant effort, are more useful than expert models, such as highly skilled instructors who seemingly perform with little difficulty” (Manz and Manz, 1991:8). When the computers were up and running the learner can move at ease through the more complicated applications and processes, with the help of a fellow student. They were already familiar with the layout of the internet, some sites posed issues but in general the internet to them is not the issue, it is the actual computer where the issues lies. Dreyfus (2004) claims that there are five stages of

adult skill acquisition. Novice, Advanced beginner, Competence, Proficiency and Expertise. Novices acquire know-how, which is the basic knowledge of how to perform a task or function through practice, and experience (Dreyfus, 1986). I believe the novice stage is where the participants in my research were at. Dreyfus (1986) claims that a person's know-how is often invisible to them and only becomes visible when that person encounters a new situation and is faced with the fact that they do not know how to accomplish it. This he believes is how the know-how is developed. For a Novice learner "the instruction process begins with the instructor decomposing the task environment into context-free features that the beginner can recognize without the desired skill" (Dreyfus, 2004:177). To easier understand what Dreyfus means, he uses an analogy to chess. A novice chess player will first learn the numeric value of each piece regardless of its position and will follow the rule, "always exchange if the total value of pieces captured exceeds the value of pieces lost" (Dreyfus, 2004:177). In an ICT setting the basic skills of the keyboard and mouse could be looked at the same as the chess pieces. Regardless of the function, knowing where they are located and the names of certain key's and how to use them is the basic knowledge that is missing for these adult learners. To related Dreyfus (2004) theory to the participants in my research, they have already through prior life experience of ICT, almost completed an advanced beginners course, having completely skipped the novice one. So a step back needs to be taken, and this explained fully, so as they do not undervalue their experience or their prior knowledge and they remain interested and motivated.

A body of influential theories within adult education tend to see all adults as self-directed learners in the sense that adults need to see the personal relevance of a particular subject in order to remain interested (Knowles, 1970). From my research there were mixed feeling about participation. Some of the participants felt that they were being forced to learn ICT, there were feeling of frustration, annoyance and some did not even know if they wanted to undertake the challenge of learning ICT. But they felt that they had to, that they were being pushed to in order to maintain their status in a technological driven society. Knowles believes that adults "resist learning when they feel others are imposing information, ideas or actions on them" (Knowles et al, 2012:63). Understanding how ICT impacts on their everyday life is important and understanding the reasons these adults are there is important. Their confidence has to be build up and nurtured, and it is imperative to understand how they feel and understand the resistance that is present. It is by understanding this resistance that the learner can flourish.

The humanist view of learning is that the learner is driven by their own understanding and wish to improve themselves and during this course develops their own knowledge. Humanist believe that a non-threatening environment is essential to the overall aim of helping adults become self-directed. But learning is not just information, it is a continuous process which occurs best in context, as Lave and Wenger' (1991) suggests. Lave and Wenger's (1991) theory is a social learning theory and they believe that learning is a social phenomenon. Situated learning takes place in the same context in which it is applied (Lave and Wenger, 1991). The focus moves away from the individual to the surroundings and the people in it, what Lave and Wenger (1991) call a Community of Practice (CoP). There are three essential components to CoP, shared area of interest, shared practice and engagement in discussion and activities that lets members share knowledge and interact with each other. The purpose is to learn from your peers, to copy and adapt to the more experienced members ways, which differs slightly from the Humanistic view which would be more student centred and personalised and more about reaching your own goals. Advantages of CoP is that it fully engages participants and gives meaning to knowledge being acquired. CoP is efficient and an effective way to handle unstructured problems such as those in an ICT class. In any ICT setting knowing where to start is not straight forward, it is not pre-packed and the adults need clarity and direction. Further along the line when adults have mastered the basic concepts of ICT, then self direction would be an enormous advantage, but while they are in the novice stage, they need support, guidance, direction, encouragement and instruction. While there is much basic knowledge to be obtained, and they are on the course to obtain this learning, the priority for the teacher or tutor is to reduce anxiety, make them feel like they belong and that they can master the skill of ICT. CoP reflects the social element extremely well, and also reflects the fundamentally social nature of human learning. "A community of practice involves, thus, much more than the technical knowledge or skill associated with undertaking some task. Members are involved in a set of relationships over time" (Lave and Wenger 1991: 98). The learner starts as a beginner and gradually becomes an expert. However some criticisms have been raised by Cox stating that it "does not consider the potential for conflict among old timers themselves or indeed among newcomers" (Cox, 2005:529). Cox also suggests that CoP's can have difficulty in attracting newcomers to the group if the group becomes too exclusive.

The human mind to Vygotsky (1978), is created through a person's interactions with the world and is an feature of the relationship between subject and object. Vygotsky's (1978)

Activity theory looks at the way that the computer as a tool blends into the user's real life activities, helping them to improve their performance. Tools such as the computer, shape the way people interact with reality, and knowing and learning have to be understood in context. The computer as a tool needs to be mastered and to master it will take time, patience and practice. When an understanding of what a computer can do for them is realised, this will then have a knock on effect on their confidence and on their everyday lives. Much research has shown that an adults confidence grows with the learning of ICT (Casey, 2001; Black, 1999), and Presley (1995) states that learning the lingo also improves confidence. I feel from my research that adults in a formal learning environment, do not know how to act or feel, they do not understand the learning process or what is expected of them and they do not understand ICT. During the time I spent in the class I observed gestures and comments that would be synonymous with childhood schooling. Many of these adults have not been in an formal learning setting in many years, and can bring with them negative feelings towards education from previous experiences. Support and encouragement are very important in any learning environment but also to enjoy the learning experience. Skills that are too difficult for a person to master can be done with guidance and encouragement from the tutor and for the learners to know, as Carl Rogers said, there is a difference between "failure and making a mistake... mistakes are a part of the learning process" (Rogers, 1969:18).

For adults to take control of their own learning, in particular how they set their own learning goals, locate resources, decide on which learning methods to use and evaluate their own progress, in other words to become self-directed, they need to know how to go about doing this. However, most agree that self-directed learning can be taught, utilizing a combination of explicit instruction, scaffolding, and encouragement (Mandinach and Linn, 1987). Adults may come to a formal learning environment with preconceptions, "people who have only experienced highly structured learning environments will likely remain unprepared for self-directed learning" (Manz and Manz, 1991). ICT can be a powerful tool when it comes to teaching and learning but how do adults go about learning it? What I am taking from my research is that key theorist in adult education do not fully take into consideration the formal setting of an ICT beginners class. There are aspects of each theory that work extremely well for adults but in the learning of the basic knowledge, Dreyfus's (2004) claims that the instruction process begins with the instructor decomposing the task environment into context-free features, which goes against Vygotsky and Lave and Wenger's theories, to them context is of the utmost importance. While Lave and Wenger's and Vygotsky's theory has massive

implications at the next level for the participants, where the learning does need to be set in context and relevant to the adults live, but for the start or novice stage, it is repetition, practice and patience that is required to master the computer. The use of Vygotsky (1978) concept of tools is a helpful way to look at ICT and learning. To apply his theory to an ICT setting, he would suggest that any group should include peers with different abilities so that the more advanced can help the less advanced to operate within the ZPD. In my research, the mixing of different abilities caused distress to some of the participants, and was found to be off-putting and served only to reinforced the leaner's own lack of ability. However, this could be in relation to the learners all starting together and believing that each was at the same level. If it was known by the learners that there were different abilities in the class then this issue could be lessened. Vygotsky's concept of scaffolding in which a more advanced teacher or peer helps is very useful, and will also help in getting to the point where they are self-directed in their leaning.

Knowles (1980:43) states that "whenever a pedagogical assumption is a realistic one, then pedagogical strategies are appropriate, regardless of the age of the learner". In a beginners ICT class, pedagogical strategies would appear to be most appropriate, however, research has shown that, "the success of the use of ICT is dependent upon the way in which the other elements of the classroom pedagogy relate to it" (Wood, 1998 cited in McCormick, 2001:38). These elements that Wood speaks of include "supporting classroom work, classroom discussion and how, if at all, students interact around the computer as they use the software" (Wegerif & Scrimshaw, 1997 cited in McCormick, 2001:38).

As the learner develops and acquires the missing basic skills, self-directed learning and andragogy methods should be applied. Adults need to be treated like adults, not patronised or pampered as they are more capable and more knowledgeable than even they think they are. If self-directed learning is a path that they feel comfortable with then that option need to be available to them but generally speaking, from my research, this path will only come at a later stage.

## Conclusion and Recommendations

The issue of how to teach ICT skills to adult is an area that has been widely researched. Much research focuses on how adults learn, on motivation, cognitive ability, ICT access or lack of and reasons why adults should learn ICT. However, my research was a study of the classroom, of the actual learning environment that adults face in a formal learning setting. My research aims to build on existing methods and techniques but also to add elements that I feel are missing when adults engage with ICT.

ICT in some ways, affects all our lives and a simple example of this was the switch from analogue to digital television that took place in Ireland on 24th October 2012, something we accept as the world moves forward. While I had a strong focus on all ICT, two elements were repeatedly mentioned in my study, the computer and the mobile phone. There were brief discussions regarding the television, more directly the sky box which uses the internet to connect to the on-demand box, and cameras using SD cards and problems with printing photo's from such devices but the computer was an issues that arose for every participant.

Understanding adults fears, understanding their needs and interests, understanding their motivation and keeping them motivated are key elements in teaching adults ICT. However, there is more that could be done to actively engage adults in the learning of ICT. From my research and observations it does not appear to be the websites that are causing the majority of the problems, it was the actual computer itself. My observations highlighted how the lack of knowledge of the keyboard hindered each person greatly. Something that is a skill is being treated as just something you will pick up or something that you should already have. More time needs to be spent with the parts, learning to develop and perfect by practice. The need to be looking at the screen is the most important aspect of learning the computer. Mistakes are made when the learners focus is on the keyboard and not on the screen. When a mistake is made the person ceases up and then the tutor does something fluid and quick and it is back to try again. Nothing has been learned from this experience, if anything it reinforces the fact that they are truly beginners and there is so much to learn. There is nothing positive about the experience and no learning outcome is achieved, all that is learned is more distrust, more fear, it is a real no confidence booster .

Involving the younger generation is also very important. One of the aspects of the digital divide is between the young and the old. Whilst many of the adults in my study found that their own children did not have the patience, teaching a stranger is often very different to a

family member. However, involvement of the younger generation can only be utilised when the basics of the keyboard are mastered. The fumbling with the keyboard would only damage confidence otherwise.

The need to keep up was apparent from my research, there was no time to write anything down, there was a pressure to stay with the class and not be left behind. Time needs to be given to write instructions down, or handout given with space available for them to write their own notes, if the person wishes. Commands or processes need to be repeated more than once. The first time a set of commands are given should be step by step with notes taken by the learner. The second time the learner tries themselves but will often run into problems so it is only on the third attempt, after dealing with problems and correcting notes that have been taken, the learner should be able to accomplish the task by themselves. "Repetition, especially when incorporated in practical experience, is the key to retention" (Bean, 2003:5), then step by step the scaffolding can be removed. Terminology needs to be explained and understood. It is fine to explain processes or commands in understandable language, but the correct words also needs to be highlighted in order for them to grasp the language of ICT.

The most important thing you can teach an adult about the computer is not to be afraid of it. All of the participants were terrified that they would click on something or press a key that somehow would disintegrate the computer. Fear can also be viewed as a motivational tool, and from my research there is a great abundance of fear, ranging from different areas and not fully understood, even by the person. The fears need to be more fully addressed and acknowledged especially the fear of the computer.

The need to practice at home is essential, however not always practical when the learners do not own their own computers or have broadband issues. Space needs to be provided for the learners to access a computer more than once a week. It is possible that an informal setting could be of benefit in this area.

I was particularly interested to uncover the participants own views of the learning process and where they placed ICT in their lives. A major concern was the challenge to their status in the home, workplace and the learning environment. One of the fundamental ways people judge each other in a highly technological world is their capacity to deal with tools and practices which are modern. The participants felt left out, isolated and alone because of their lack of ICT knowledge and they wanted to "rejoin the human race" (Bosley, 2011:29). My research had a focus on motivation, and the barriers and challenges they faced during the course.

The changing work place, the rapid velocity of new technologies, the spread and access of knowledge are just a few reasons why it is important for adults to learn. What my research uncovered dug deep into social interaction and showed me that there is a lot more to my research question than I originally thought. My findings are not what I was expecting but possibly, a real contribution to how we understand ICT in a formal learning setting. Key adult education theorists give a view on how good learning happens for adults, but the unique setting of an basic ICT class raises issues with some of the elements of what makes for good learning. The time to spend with each person causes problems and finding a solution to overcome this is challenging, but possible.

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## Appendix A - Informed Consent

# Informed Consent Form

Anne Brady
MEd in Adult and Community Education
Maynooth University

## Introduction

In today's society technology has completely taken over. Adults are increasingly interested and involved in using technologies that allow them to stay more connected socially, with family, or with care giving resources. It has many benefits from researching hobbies and interests to downloading application forms. Despite the benefits technology can have for older adults, there remains the public perception that older adults are not interested in technology or do not want to learn about it.

My research aims to find out about the contact you have in your everyday life with technology, and how this technology has changed the way you approach certain situations. I want to learn what influenced you to enrol on this computer course and how you approach tasks set out for you and how you make sense of these tasks. I am interested in learning what you understand the challenges, if any, to be with older adults learning computers and how you would approach these challenges and sort them out.

If there is any part of this information that you do not understand or if would like some more details or to talk through what would be involved please contact me anytime.

| | |
|---|---|
| Name of Principle Investigator | Anne Brady<br>Phone: [redacted]<br>anne.brady.2009@nuim.ie |
| Name of Organization | Maynooth University |
| Name of Project | Thesis research<br>MEd in Adult and Community Education |
| Name of Supervisor | Fergal Finnegan<br>Phone: [redacted]<br>fergal.finnegan@nuim.ie |
| Maynooth University Ethics committee | research.ethics@nuim.ie |

# Part I: Information Sheet

Purpose of the research

It can be argued that we live in a computer age where technology is becoming increasingly important to our way of life. Despite the interest of many older adults in learning computer skills, there is a still a gap between the younger generation and the older generation.
This is not to say they older people cannot learn or do not learn, they can and do learn often extremely well, it just means that it does not come as natural as it does to a younger person. This I believe is the core problem that adults face when learning new technologies, and the outcomes often depend on the way and type of interaction between them and the technology. I want to learn what motivates adults to learn to use a computer and what are the challenges and barriers they face along the way.

Type of Research and Duration

I would like my research to take place over the six weeks of your computer class.
This research will involve your participation in interviews which should take no more than an hour per interview. These interviews can be arranged at a time and place of your convenience. During the classes I would like to sit with you and observe the way in which you deal with, and understand the instructions given and how you make sense of what you are being asked to do. At the end of the module I would like to have a group discussion for about half an hour, to discuss as a group, how you found the experience.

Voluntary Participation

Your participation in this research is entirely voluntary. It is your choice whether to participate or not. If you choose not to participate, anything you say during any of the classes will NOT be documented by me. If you do agree and change your mind later and want to stop participating then anything you have said to me will NOT be documented by me.

Procedures and Confidentiality

I am asking you to help me learn more about how older adults understand technology and what influences them to learn about computers. During the interview if you do not wish to answer any of the questions, you may say so and I will move on to the next question. No one else but the myself will be present unless you would like someone else to be there. The information recorded is confidential, and no one else will have access to the information documented during your interview. The entire interview will be recorded, and when I transcribe the information no one will be identified by their real name. The tape will be kept by me in my home and will not be available to anyone else. I will keep the tapes for six months after which they will be destroyed. What I document in my thesis will be made available to you to read and check. If at this point you wish to make amendments it is still possible. If you feel that I have misunderstood something you have said or made assumptions that are incorrect you have the right to ask me to change or you can withdraw your statement before the final draft is completed. You do not have to take part in this research if you do not wish to do so. You may stop participating in the interview at any time without any reasons being provided.

Sharing the Results

The knowledge that we get from this research will be shared with you and your community before it is made widely available to the public. Each participant will receive a summary of the results.

## Part II: Certificate of Consent

I have been invited to participate in research about older adults and the use of technology.

I have read the foregoing information, or it has been read to me.

I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction.

I consent voluntarily to be a participant in this study

Print Name of Participant _____

Phone Number _____

Signature of Participant _____

Date _____