Investigation in the use of video technology with adults with moderate intellectual disability, to teach culinary arts using self- modelling and overt auditory self-prompting in their own home

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Submitted in partial fulfilment for the award of the degree of Doctor in Education

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December 2016

DECLARATION

I hereby certify that this material, which I now submit for assessment on the programme of study leading to the award of Doctor of Education is entirely my own work, and that I have exercised reasonable care to ensure that the work is original, and does not to the best of my knowledge breach any law of copyright, and has not been taken from the work of others save and to the extent that such work has been cited and acknowledged within the text of my work.

Signed: *Mark Farrell* ID No. 59275391: Date 12.12.16

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GLOSSARY OF TERMS

SEN	Special Educational Needs
ID	Intellectual Disability
DVD	Digital Versatile Disc
SU	Service User
SP	Service Provider
QOL	Quality Of Life
SERC	Special Education Review Committee
EPSEN	Education for Persons with Special Educational Needs
T2016	Towards 2016
ERGDP	Expert Reference Group on Disability Policy
TA	Task Analysis
AT	Assistive Technology
VM	Video-modelling
VSM	Video Self-modelling
SPC	Saint Patrick's College
SI	Systematic Instruction
HSE	Health Service Executive
AR	Action Research
SLT	Social Learning theory
DCU	Dublin City University
NDA	National Disability Authority
COP	Community of Practice

ABSTRACT

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Investigation in the use of video technology with adults with moderate intellectual disability, to teach culinary arts using self- modelling and overt auditory self-prompting in their own home

An important rationale of special education, from an adult perspective, is to support people with intellectual disability to live independently. The Government's central policy objective for people with disabilities is contained in 'Towards 2016' and states that they should be supported to lead full and independent lives. This presents many challenges for adult educators in building the skill set for individuals to reach this goal, especially for people with learning difficulties and literacy problems. This study developed the culinary skills of adults with a moderate intellectual disability which enabled them to live more independently. The possession of cooking skills has been linked to improved diet and healthier life style. The project was a collaborative qualitative investigation which was initiated by participants themselves. Research had previously demonstrated the effectiveness of training for adults through the use of video-modelling using another person as overt auditory prompting model. This study used a new self -empowered method of training using an eclectic mix of learning strategies with the latest evidenced based research in digital video technology. This study taught cooking skills in a group setting and then enabled adult students to transfer their new skills to their home living environment. Recipes were devised based on the food preferences of participants. A video template recording of their cooking was edited by the researcher for their use as a learning tool which included participant's self-generated overt auditory prompting. The intervention was carried out over a period of six months in that time the participants learnt to cook at home. After one additional month they had retained their skills and after twelve months they were cooking for themselves in their home and said they enjoyed the experience.

CHAPTER 1

INTRODUCTION

This investigation seeks to empower adults with moderate Intellectual Disability (ID) through their self-directed instruction using video technology to cook in their own home. This chapter begins by identifying how food knowledge has historically played a significant role in determining our status in society and how individuals can improve upon their social standing through participation in food education.
The theme is further developed to demonstrate how lack of food education especially for people from marginalised groups perpetuates social inequality. Historically they have had lesser opportunities to engage in food culture than those living in mainstream. The means of tackling inequality are presented through training and resources which are identified as tools to improve peoples' quality of life and health.

Food education is portrayed as an essential activity to facilitate the greater participation of people with ID in their residential community setting. Independent living is identified as a real achievable goal for people with moderate ID in their own home as opposed to just being an aspirational government policy. The research focus of this project is determined to be culinary arts training in collaboration with people with ID using video technology. Their tuition applies video-modelling and self-prompting techniques to facilitate self-instruction.

The research purpose is identified in opposition to previous evidence based practice to provide culinary arts training specifically at the request of participants to satisfy their greater self-determination needs. The participants are resident in community settings under the care of a service provider. This investigation attempts to provide

training to each person over the course of the project based on their individualised needs and capabilities. Evidence and reasons as to why people who lived in care from the 1980s do not practise culinary skills are outlined. This narrative portrays the challenges faced by special educational teachers applying curriculum guidelines in the context of culinary training without access to adequate support and resources. The progression of government policy and international legislation in the intervening years is portrayed to reflect the changing life expectations of people living in care and their opportunity to develop to their full potential. Finally this chapter reflects my narrative working in employment with the service provider.

Food

Our social standing in society can very often be determined by what we eat (Goody, 1982). Different levels of inequality and disadvantage in society today are clearly discernible in the contrasting food knowledge and diets of people from different social strata (Walsh & McConkey, 2009; Armesto, 2002). Current inequalities are clearly reflected in society today between diet, food and disadvantage (Walsh & McConkey, 2009). Having control over what we eat is a basic human right. To gain control one must acquire the knowledge and skill to cook (Escoffier, 2003). The skill of cooking and sharing food is an endorsement of our humanity, credibility and culture (Levi–Strauss, 1970). Living without culinary skills and knowledge permits food poverty (Toussaint-Samat, 2009).

Food Poverty

Food poverty is merely defined as not only having an inability to afford healthy food but can also encompass not having access to healthy food. Friel and Conlon (2004, p.19) defined food poverty as: “The inability to enjoy an adequate and nutritious diet

impacts on both the health and well-being of individuals and households as well as on the social behaviour of food poor households and their members." Data from Ireland determined that people of lower social standing had restricted access to a diet containing fresh fruit and vegetables; they ate more salty, processed foods which were higher in fat content (Committee for Health, Social Services and Public Safety, 2009).

There is a significant gap between the rich and the poor. These inequalities arise due to the conditions in which people are born, grow, live, work and age (Marmot, 2010). These health inequalities are caused by many general factors as reflected in the diagram related to each individuals' socio-economic, cultural and environmental conditions at play in their lives. There are a variety of factors that influence learning outcomes for people with Intellectual Disability (ID) including core cognitive processes such as phonological awareness, behavioural/ psycho-social factors such as motivation and the influence of neurobiological factors and environmental factors including one's school and home address (Fletcher, Lyon, Fuchs & Barnes, 2007).

For numerous economic, social and political reasons the term Quality Of Life (QOL) has emerged as a desired outcome for service delivery to mainstream and special needs educational groups and increasingly cross cutting public sector partnership policy (Galloway, 2005). Health inequalities for those on lower incomes partly determine their career opportunities and ultimately may have a negative bearing on their QOL (Marks & Sisirak, 2010). People with an ID are more likely to suffer from diabetes or obesity due to poor diet and have poorer health than others (Elliot, Hatton & Emerson, 2003).

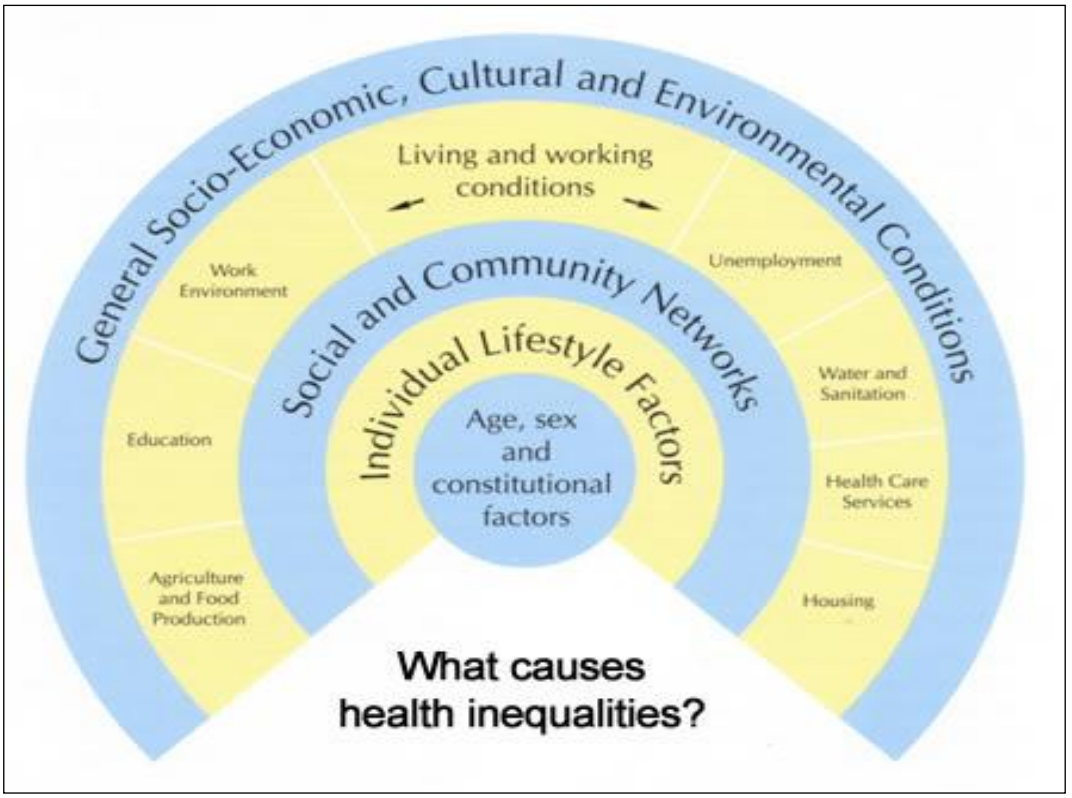

Figure 1.1 Social Determinants of Health (Dahlgren & Whitehead, 1991).

This negativity can be diminished with the aid of education and resources. Health equity is achievable through action on social determinants of health (Dahlgren et al., 1991). The health needs' of people with ID are given greater priority as their life expectancy increases and society's attitude towards them improves (Department of Education, 1981, p.40).

Food education is an essential component of independent living, building capability and enabling real community inclusion (Hartmann, Dohle & Siegrist, 2013). New research needs to investigate the most appropriate instructional methods to help people with ID live more independently and be self- determined (Davis, 1995). An important rationale of special education, from an adult perspective, is to support people to live independently.

Research Focus

The ultimate purpose of this project is through the use of new technology to enable participants through the development of their culinary skills to cook wholesome, nutritional meals for themselves at home. The participants are representative of a small sample of the overall population of adults with moderate ID currently residing in community residential settings governed by service providers in Ireland today.

The service provider of the participants in question caters for people with mild, moderate and profound ID. Services are designed to address the changing needs of people as they progress through life from pre-school to old age. Early intervention begins with an infant support service which assists the parents and child in their own home. A pre-school service caters for the needs of 20 children from two to five years of age. There are inclusive pre-school supports available for 15 children which facilitates their integration into local mainstream playschool.

A primary school provides special education services for 120 pupils. Thereafter they can progress onto further post primary education followed by vocational training in a purpose built mainstream facility. Educational progression for all young adults encompasses training in numerous life skills including art, computers and home economics. Thereafter they have opportunities to choose further work related training in community and or in sheltered workshops. The latter enterprises include restaurants, cafes and retail outlets. Adults in the service who take employment in the community are supported by an advocacy team. The service provides 350 residential places for adults with ID. The number of residents to each home varies from one to five. There are over 20 houses on the campus and almost 30 in the wider community

setting. There are also additional apartment style facilities were service users are supported to live independently. Some are based locally and there are additional apartments in the wider community. In addition to residents the service provides support for the needs of an additional 300 day attenders. Respite services are also provided on a short term bases in community residence for all service users of the provider. Services are delivered by a multi-disciplined team of professionals working in collaboration with service users and their families to provide a quality product.

Ultimately the research aim is through endeavour and close collaboration with participants to develop, apply and record an easier way for adults with moderate ID to learn to cook for themselves and their peers in their own home. Researchers in this field have successfully applied Video-Modelling (VM) as a positive means of training adults with ID to cook. Assistive Technology (AT) provides education and research communities with an ideal medium to generate data for research purposes (Heath, Hindmarsh & Luff, 2011; Haw & Hadfield, 2011; Banks, 1998). While this format is ideal for data collection, digitisation has made the method more accessible, economical and efficient to record, format and edit for display in disc format. Video can provide real simulations of the tasks in the correct sequence delivered by the learner, thus empowering them (Iovannone, Dunlap, Huber & Kincaid, 2003). Rather than being instructed by others, technology provides the means for participants to instruct themselves and generates a new space for self-criticism and self-reflection (Illingworth, Moore & McGillivray, 2003). This space is not a separate realm of learning, but a common place that works across all learning experiences (Haythornthwaite & Andrews, 2011).

Purpose

Previously researchers using AT had provided participants with the impetus, rationale and reasons for them to cook (Heath et al., 2011). Those taking part were not consulted about the type of foods to be cooked. The foods to be cooked were assigned to them and were mostly generic, convenient and not healthy in terms of quality (Mechling & Collins, 2012). There was no evidence to suggest in their research that participants had been consulted in relation to the foods they cooked, who they cooked for, the standards to which the food was cooked to or focus on the relevance of the training environment as a contributing factor to their QOL. This project emerged from consultation with people with moderate ID with regard to training that they requested for themselves. They chose the foods to cook; they drove the pace of the training through continual feedback to me and their key-workers. They cooked in their own home for themselves and their peers using recipes which they adapted to suit their needs not their perceived needs.

Education can have a positive bearing on one's health, well-being and overall QOL (Humphries, Pepper, Traci, Olson, & Seekins, 2009). Disabling barriers to education including food poverty place marginalised people at a significant disadvantage in terms of their potential towards a fulfilling life, most especially when they are non-literate due to educational disadvantage or special educational needs (Scottish Learning Disability Clinical Dietetic Network, 2009). A healthy diet fulfils primary needs and is linked to well-being, health, nutrition and QOL (Felce, Lowe & Jones, 2002). Society today by focussing on the physical aspects of nutrition in relation to food, often places a greater emphasis on looks, size and weight of people and can overlook the positive elements of a healthy diet (Kristensen, Holm, Raben & Astrup,

2002). At the same time, there is a loss of the cultural and social aspects of dining such as cooking and sharing a meal with a friend (Zwart, 2000). Food quality can be discerned through sensory analysis and its presentation can express status (Jones, 2007). When served in company the food reflects the implied status in which diners are held and the self-esteem of the host (Mennell, 1996).

One's first memories of food usually come from our mother or one's care provider who has the greatest influence on a child's eating habits (Korsmeyer, 1999). They play a vital role. The relationship between the child and mother has also been recognised as an important motivational force in the child's language development (DoE, 1980). If one is resident away from home then one's food habits are largely acquired unconsciously by the culture at play in that specific environment. It is important to acknowledge separation and loss in each person's family narrative because it may influence each individual's future life as they seek to rebuild attachments (Raicar, 2009). Separation for the participants in this project and potentially many of their peers meant that they did not receive cooking skills training at home.

Curriculum guidelines for special schools in 1980's determined that while people with ID can be trained to cook, their training takes significant resources of time, commitment and individual guidance. The general approach to training was that it was best delivered in a "House craft room / area" and to be effective it should be backed up by continued training in the child's residence to gain fluency (DoE, 1987). Curriculum guidelines in relation to communication and expressive skills for people with ID in the same time frame also promoted literacy.

The participants in this project attended a special school in the period where the above curriculum guidelines were applied. All the participants currently have literacy difficulties. They present a challenging obstacle to overcome while teaching in the context of a challenging multi-dimensional needs classroom (Howe, 2005). Some of the skills identified in the curriculum may not be achievable by some learners in the classroom.

Guidelines in relation to reading determined that for a child with a deficit in social skills: Greater emphasis was required to build their social functioning as opposed to their literacy (DoE, 1981). It was determined that the ability of people with ID to label and categorise parts of their environment made a significant contribution to their cognitive development. Cognitive development can therefore be encouraged if participants are empowered to verbalise overtly while performing motor tasks as it may regulate their motor development (DoE, 1981, p. 11).

For those with ID living in communal settings cooking was most usually conducted away from general living spaces in centralised industrialised kitchens and mealtimes were therefore more dependent on logistical constraints of food storage, delivery, temperature control, service, supervision, time and ergonomics (Johnson, Hobson, Garcia & Matthews, 2011).

Industrial production methods and practical financial constraints limit food choice (Food Standards Australia New Zealand, 2008). Food choice may also be constrained in relation to available fresh seasonal produce such as fresh fish and fresh vegetables with preference for canned and frozen varieties (McHattie, Knight & Love, 2004).

Choice may also be constrained in terms of menu items with a prolific use of ready-made food items such as sausage rolls, burger patties and reformed fish (Bail, 2007). Food choice may be limited by use of menu items consisting of cheap cuts of meat and poultry available with preference for slow cooked mince or meat pieces as opposed to quick fried more tender items such as steaks or fillets. Certain food items including fresh prepared omelettes cannot be included on similar menu cycles as their preparation requires skilled cooking, timing and immediate service (Bail, 2007). Choice should not be dependent on the limitations of industrial food production or to fulfil legislative obligations (Pitte, 1999).

Research Problem

One's opportunity to learn about domestic food preparation, cooking, baking and experience or be part of a real food culture while living away from home in a residential setting or hospital was therefore inevitably considerably diminished. It was not possible to engage with a real authentic food culture because cooking was carried out in isolation for health and safety concerns (Goody, 1977). The loss or diminished practice of cooking skills has been linked proportionally to one's health and well-being (Hartmann et al., 2013). One's opportunity to acquire and practice culinary skills was therefore also considerably diminished in institutional settings. People who have food knowledge and who cook are more likely to contribute to their recommended daily nutritional dietary requirements as Self- Determination (SD) allows them to make healthier food choices (Hartmann et al., 2013).

Access to and control of food resources provided security to people in all civilisations. Abnormal eating patterns have been linked to stress and may reflect

uncertainty about a person's role or position in society (Blundell & Halford, 1994). Stress and anxiety can contribute to obesity (CHSSPS, 2009). It is a growing problem for Irish society but especially for residents of care providers. Those who live in residential homes are more likely to be obese than others living in institutions (Doody & Doody, 2012). Obesity increases one's risk of developing chronic diseases such as diabetes and heart disease. Defining one's role in society for an individual may therefore not only contribute to greater self-esteem but may also provide health benefits.

There has been a large exodus of people from institutions to community living in the last ten years. The relocation was carried out to improve the QOL for people living in care (Health Service Executive, 2011). Yet physical placement is not enough if they are to experience real living in their own homes. People with ID require training to do the things that others take for granted, such as cooking. Therefore new systems of learning must be developed to satisfy their needs with their permission and involvement to potentially address their desire for SD and self-actualisation (Rosenshine, 2012). As far back as the 1980's in Ireland it was acknowledged that people with ID could learn to care for themselves and learn from others while doing so (DoH, 1981). Deciphering through the wealth of successful evidence-based research for people with ID is difficult to determine a plausible pathway for learning given the numerous different names and labels used to define their disability.

International

The dilemma of the varying types, classifications and construct of multiple disabilities has been further confused by an approach to disability as a medical

problem. Historically ID was seen as a permanent state to which care, usually medical, must be provided (Barnes & Mercer, 2010).

Categorical definitions of differing clinical diagnosis seemed most apt to deliver the various levels of medical support required by the individual. The medical approach stigmatises not only the person with the disability who would usually be placed in a hospital but also had a negative impact on life opportunities open to them. The medically trained personnel were employed to deliver a clinical care service. They were not qualified to provide life skills training to people living under their care. The provision of education for people with a disability was deemed not necessarily to be their right but was more as a means of reducing their burden on society. There was therefore a skills training deficit for people living in care who wanted to learn how to live more independently (Welshman & Walmsley, 2006).

ID is now recognised as being on more of a continuum of being rather than a place of permanency (Clapton, 2009).The position is fluid and can change periodically depending on education, environment, resources and political will (GoI, 2006). The adoption of a social model of disability nationally and internationally recognised independent living as a tool of social change (Hurst, 2005). The World Health Organisation (WHO) defines disability as a socially created problem and identifies all of the complex conditions associated with its management to create a fully inclusive society for all (WHO, 2001). It placed the responsibility on governments to devise policy which tackles inequalities to enable disabled people to fully participate in society. Thus rather than being deemed a medical problem for the individual to cope with it became a political problem for public representatives to tackle. It is a question

of human rights (Hurst, 2005). New disability policies are now situated within the new social model of disability; it takes time, education and a willingness on behalf of the teacher to dismantle historic barriers to enable full participation (National Council for Curriculum and Assessment, 1999). It is very challenging for people who had grown up when the medical model was in operation to automatically assume SD skills and exercise them towards their life goals. There is a skills gap which cannot be filled overnight but will take individuals time to learn to self-advocate and become self-determined (Luckasson & Schalock, 2013). This project was a small step in that direction.

National Policy

The evolution of modern Irish disability legislation has sought to promote and encourage success for people who were previously marginalised (Fulcher, 1989). Yet while Irish legislation has been significant, its' tenets do not lead to a new direction, but remain somewhat aspirational (Quinn, 2009; Kelly, 2010). There is significant differences between what should be and what is currently in reality (Keogh, 2011). The chasm exists because children who grew up in 1980's Ireland did not receive the same education as their successors who attend school today (Keogh, 2011). While they grew up in a period of dynamic policy change their experiences restricted their ability to benefit from these new directions (Quinn, 2009). Now these people need opportunities to build their self-esteem and exercise greater self-determination so they can apply self-efficacy towards future aspirational goals and make their dreams a reality.

Evolution of Recent Disability Strategy
The Disability Act 2005 The Education Act 1998 The Employment Equality Act 1998 The National Disability Authority Act 1999 The Equal Status Act 2000
The Citizens Information Act 2007
The Education for Persons with Special Educational Needs Act 2004
United Nations Convention on the Rights of Persons with Disabilities 2006
Health Information and Quality Authority 2007
Time to Move on from Community Settings: A Strategy for Community Inclusion 2011
Value for Money and Policy Review of Disability Services 2012
New Directions Report 2012

Table 1.1 Evolution of recent Disability Strategy

From the beginning to the middle of the twentieth century there was little provision for special education in Ireland. Thereafter voluntary organisations and religious communities took the responsibility for educating children with moderate learning difficulties in a small number of special schools (NCCA, 1999). Special educational needs provision was first officially recognised by 'The Commission of Inquiry on Mental Handicap' (Government of Ireland, 1965). Thereafter, each new piece of Irish government legislation enabled the greater provision of resources to those requiring specialist educational interventions. Significant reports included 'The Report of the Special Education Review Committee' (SERC) (DoE, 1993) which acknowledged the fundamental change which was taking place world-wide in relation to special education and specifically recognised the need for early detection and intervention to enable the child to reach their full potential in later life. 'The White Paper on

Education, Charting our Education future' acknowledged each child's right to education regardless of their circumstances according to their potential and ability (Department of Education and Science, 1995).

The further acceleration of policy change began with 'The Report of the Commission on the Status of People with Disabilities' (Department of Equality and Law Reform, 1996) entitled 'A Strategy for Equality' which developed from significant consultation with people with disabilities and their carers throughout the country at listening meetings. Its aim was to remove the barriers that impeded each person's right to fully participate in society. Consultation and participation were given the highest priority. This was a new approach which was used in future policy development thereafter. 'The Education Act' (GoI, 1998) provided a statutory framework for the Irish educational system and endorsed the right to education for all children. Education for Persons with Special Educational Needs Act (EPSEN) (GoI, 2004) involved parents more in the special education of their child, established a National Council for Special Education (NCSE) and strove to enable all to participate equally in the child's educational journey (Day & Prunty, 2010).

Local

Implementation of EPSEN (GoI, 2004) by schools on the ground presented difficulties for them in understanding how new policy guidelines were to be implemented by teachers in each classroom (NCSE, 2009). Problems arose about individuals' specific understandings of disability and special educational needs within the classroom (National Disability Authority, 2006). This confusion led to individualised interpretation and implementation of policy at schools nationally and

resulting in inconsistencies at local level (NDA, 2006). While the capacity for schools to cope with students with special needs was constrained by the increasing responsibilities placed on principals, there was also a deficit in the skills and experience of teachers and support staff that was not been met through provision of continued professional developmental training (DES, 2012). Teachers and care staff in adult services did not have the specialist knowledge regarding the different types of disabilities (NDA, 2006).

Policy and Practice

While traditional disability law revolved around setting parameters for education and care rather than delivering greater independence, now people can theoretically dictate their own future path (Chalklen, 2010). New Irish legislation facilitates their pathways being compliant with evidence-based international best practice (Health Service Executive, 2010). The Government's central policy objective for people with disabilities is contained in 'Towards 2016' and states that they should be supported to lead full and independent lives (GoI, 2006). The National Disability Strategy was launched in 2004 and aimed to support the vision and goals prescribed in 'Towards 2016' to create a comprehensive strategy to support the full inclusion of people with disabilities in Irish society (GoI, 2006). However the introduction of new policies or legislation is not simply enough to ensure people exercise their right to fully participate in every aspect of society including life-long learning (Department of Health and Children, 2005). This presents many challenges for adult educators in building the skill set for individuals to reach this goal, especially for those people with ID and literacy problems. They need specialist training to enable them to do so (Duggan & Byrne, 2013).

Positive Policy Changes

The United Nations Convention on the Rights of People with Disabilities (2006) reflected the paradigm shift, no longer viewing those with ID as objects of charity, while recognising and advocating their rights to decision making, choice and informed consent. At European level the European Convention for the Protection of Human Rights and Fundamental Freedoms (Council of Europe, 2010) was recognised by Ireland through the European Convention on Human Rights (GoI, 2003). This recognition was reinforced through published Draft National Standards for Disability Services report commissioned by the NDA (NDA, 2004). These inclusive standards are reinforced in a legislative context through Employment Equality Act (GoI, 2004), EPSEN Act (GoI, 2004), and The Disability Act (GoI, 2005).

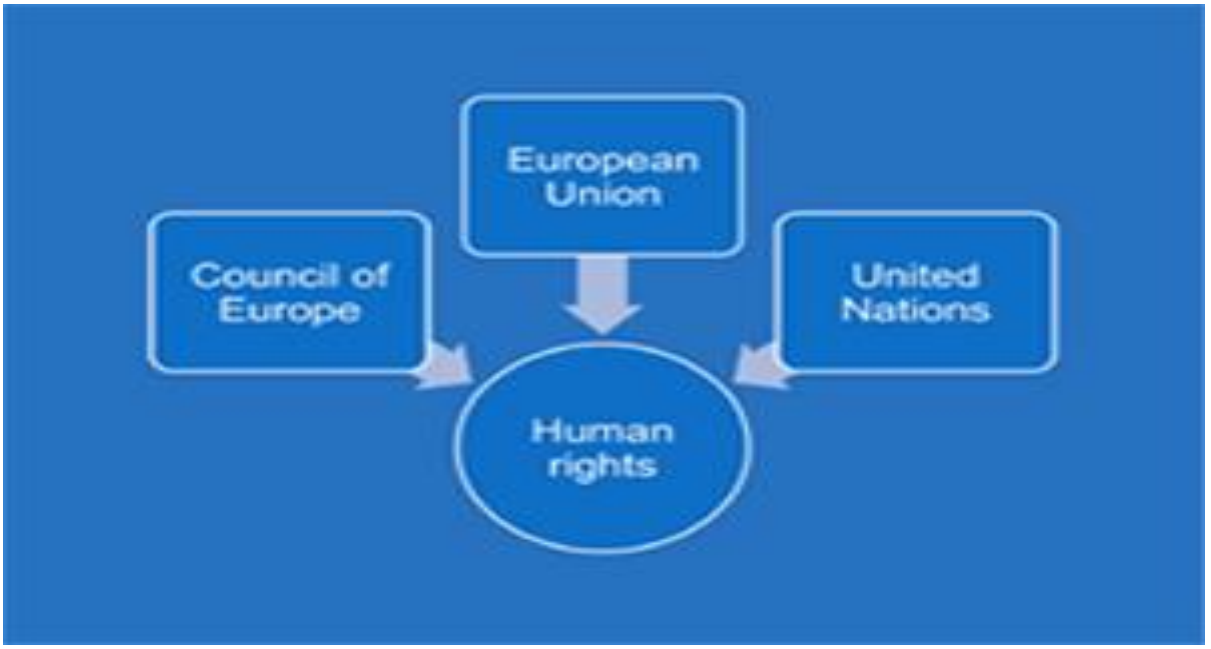

Figure 1.2 Human Rights Framework (Reading, 2015).

As outlined in new Irish disability policy presently, numerous developments occur in the provision of services for people with ID. The goal of the National Partnership Agreement 'Towards 2016' sought "*An Ireland where people with disabilities have,*

to the greatest extent possible, the opportunity to live a full life with their families as part of the local community, free from discrimination."

Historically service provision has given providers power over residents and left them powerless (Oliver 1990). O'Brien and Lovett (1992) determine that institutions were more efficient at providing people for services, rather than services for people. The Independent living movement emerged in the United States of America in the 1960's during a period a rapid social change which spread world-wide. The philosophy charges people with disabilities to dictate and manage their needs themselves (Costello & Cox, 2013). The movement does not seek a cure for disability but only the recognition of basic human and civil rights for everyone (Shakespeare, 2006). Adaptive skills are recognised as a person's ability to function in contrasting life domains or fields of personal independence and social responsibility. These had been adapted from pioneering work carried out by Edgar Doll (1935) who created a means of estimating the social competence or maturity of a person with an intellectual disability through a Vineland Social Maturity Scale. People with moderate ID may have poor adaptive skill competency and they need training in life skills. Poor competencies inhibit the person's ability to participate fully in community and reduce their quality of life or reduce their capacity to reach their full potential. Lack of training in living skills increases dependency on family or care support and can lead to passivity or learned helplessness.

In line with international best practice new Irish policy dictates a movement of people with disabilities into a living environment where they can integrate and exercise greater choice. There are numerous definitions to describe the provision of

accommodation for people with disabilities who live in community settings (Mansell & Beadle-Brown, 2009). They include campus settings, cluster housing, village communities and dispersed communities which are the dominant means of provision in Ireland (Kelly, Kelly & O'Donohue, 2013). Campus settings are based on the grounds of past institutions which are now known as service providers. They house people with multiple disabilities requiring significant care and supports.

Cluster housing or community clusters are typically located in areas close together in neighbourhood housing estates. In community clusters people with ID tend to live in medium sized family groups. They have a house parent and care team to support their needs. Village or intentional communities are environments where volunteer support workers support people with ID to live inclusively. They include providers such as L'Arche who have created 149 communities and 20 projects in 39 countries worldwide. There are currently L'Arche communities in Belfast, Cork, Kilkenny and Dublin (L'Arche, 2015). Residents with ID are most usually within the mild to moderate range of intellectual disability.

Dispersed housing would include community group homes which consist of three to eight residents who require medium levels of support. These houses are in the community with staff providing support as required for each individual's level of needs. Active participation in community activities is fundamental to real living not just physical placement (Snow, 1989). The participants in this study all live in separate dispersed housing units and the service provider is charged with providing a duty of care to them. They are the dominant form of community care provision internationally (Mansell & Beadle-Brown, 2009). This new way forward was outlined

in the Value for Money and Policy Review on disability (2012) seeking to put the financial emphasis on care provided for people with disabilities in communities not institutions so they can live as equals.

Currently 18.5% of the Irish population have some form of disability and there is a significant number who live at home (Costello & Cox, 2013). People with physical disabilities living at home with families are encouraged through legislation to live independently. Assistive technology enables them to enhance their well-being and quality of life. Technology can provide many people with access to full opportunities in community settings. They are entitled to have personal assistance to live alone. Their housing rights are protected and they receive support from staff on a domiciliary basis from a provider of their choosing (Mansell & Beadle-Brown, 2009). Independent or supported living allows a person with physical disability to rent or own their own homes. Individuals decide to share with others or live alone. Each individual's service provision is accessed based on their required need. Personal assistance provides for needs ranging from minimal to 24 hour staffing care. The person with the disability employs the services they require and it is accepted that they have the capacity to make their own decisions (Oliver, 1990). They are given the means to make a house their home. The latter approach seeks to create a real home for the person with disability.

Somerville (1992) describes seven key signifiers that are important to the feeling of home in a living environment. Shelter is widely understood to be a structure or building that provides protection from the natural elements and danger. Somerville (1992) determines that a sense of continuity and tenure is considered to create a real

sense of home. Somerville (1992) describes hearth as a sense of warmth, comfort and connection important to independent living. Privacy is an essential aspect to a real sanctuary home living that enables a sense of identity, belonging in one's abode (Somerville, 1992). These elements provide a means for dreams to be realised through greater opportunities, fulfilment and happiness.

'New Directions' (ND) (HSE, 2010) continued to build on a policy shift towards inclusion through recommendations for the improvement of day services for adults with ID in a report funded by the HSE. ND compels Service Providers (SP) to provide individualised outcome based supports for people in accordance with their needs and aspirations, not the needs of the service. A core recommendation of 'Time to Move on from Congregated Settings' (HSE, 2011) regarding the approximately 4000 people currently living in settings of 10 or more is that they should have an opportunity for their full community inclusion in smaller settings and that all present institutional settings should be closed. On November 1st 2013 independent regulation of residential services for children and adults with ID came into effect nationwide (Health Information and Quality Authority, 2013).

The Health Information and Quality Authority (HIQA) is now responsible for the registration and inspection of services including respite care run by the HSE, private or voluntary service providers. There are 9,800 people currently living in 1300 residential services run by 88 SP (Duncan, 2014). The 'National Standards' for Children and Adults with Disabilities' were published in May 2013 (HIQA, 2013). The Standards aim to deliver a person centred service to people through the promotion of their rights while protecting their autonomy, privacy, dignity and right to choice. HIQA was given the power to enter residences in 2013 and has the

authority under the Health Act (GoI, 2007) to terminate and prosecute SP who do not comply with best practice in the interests of the child or adult with a disability. As a consequence of more transparent services for people with ID there has been a greater emphasis on the quality, choice, meal times, delivery, service, setting, style and provision of food to residents.

The Value for Money Policy Review of Disability Services in Ireland: National Implementation Framework (Department of Health, 2013) sought to reinforce the shift from funding, governance, delivery and provision of group based services towards a more transparent, accountable and cost effective model. The new model sought to be more people centred and promoted the full inclusion and SD of individuals in their community (DOH, 2013). Yet simple physical placement will not improve their QOL. These individuals need to learn life skills to ensure that they can provide themselves with an ordinary life. Their skills development needs to be sympathetic to individual needs while also empowering them as adults to take control of their learning (Johnson, Walmsley & Wolfe, 2010). Adults with ID should be consulted about their educational needs and their skills development should be in the context of real life needs towards greater independence (Kober, 2010). This process therefore presents many challenges to adult educators in building the skill set needed for independent living, especially for those with ID and literacy problems. It is critical to know the individual characteristics of trainees (Doll, 1935). Knowing their distinct personalities can make learning more individual to their needs. Learning therefore works best in small intimate gatherings (Duggan & Byrne, 2013). Education can play a positive role in improving the lives as QOL is a multi-dimensional construct and

does not specifically relate to one's income (Walsh, Emerson, Hatton, Lobb, Bradley, Schalock & Moseley, 2007).

For adults with moderate ID there is specific evidence based research regarding their education, training and rehabilitation. Evidence determined by a review conducted by the NCSE (Duggan & Byrne, 2013) identified the following: Set clear training targets and objectives, identify and remove debilitating barriers to learning including negative attitudes and beliefs of trainers, conduct an inclusive person centred approach to educational design and development, empower those with disabilities to take part in the design of their training and facilitate their self-advocating with supportive guidance from peer and natural local supports.

Self-Determination Skills

Any educational intervention should seek to develop the Self-Determination (SD) skills of participants. New innovative mechanisms for people that can facilitate their education should also seek to be self-motivational, efficient, cost effective, self-controlled and applicable in their own home (Ayres, 2012). The rationale for the present project evolved from a request by service users to a care provider interested in building their cooking skills for personal fulfilment. Self- efficacy is a signature of intrinsic motivation required by learners participating in self- directed learning (Deci & Ryan, 1985). SD is an educational process that can be facilitated through self-directed learning (Agran & Wehmeyer, 2000).

Policy can provide innovative mechanisms to redistribute resources and minimise inequities (Field, Kuczera & Pont, 2007). These include empowerment and self-

advocacy. However of the 26, 484 people with an ID registered by The National Institute for Disability in Ireland in 2010, taken as a representative sample, 41% were aged 35 or over (Kelly, 2010). Therefore 10,965 people grew up in an era when they could have moved into institutional care at some point in their early life. Education may facilitate their greater inclusion, SD, independence and QOL given an effective systematic approach (Renzaglia, Karvonen, Drasgow & Stoxen, 2003). New innovative educational approaches have increased the levels of self-actualisation which people can aspire to and achieve (Bailey & Miller Nixon, 2014).

Changing Expectations

New policy changes for service provision give greater power to people with ID who are resident with them (National Federation of Voluntary Bodies, 2011). Inspection of SP by HIQA enables a more transparent picture of the life of the resident to be determined by their families. Economic necessity and government policy has inspired greater organisational transparency and better services from providers, working in greater collaboration with government to the benefit of service users (DoH, 2013). Person-centred planning (PCP) now places the user at the centre of the service (HSE, 2012). They can within reason direct the training and educational opportunities open to them. The move from sheltered occupational workshops to open employment demonstrates their ability and capacity for community integration (NDA, 2009). Social inclusion is now a protected human right (GoI, 2008). Technology as a learning tool increases the student's ability to learn to take control of their education (Ayres, 2012). The dilemma comes for people in transition to community living and the skills deficit they currently possess.

Development of Independent Living Skills

A significant problem for mature people with ID in Ireland today is that many of them may not have been given the opportunity to learn life skills necessary to live independently in their community. They have not had sufficient training in life skills such as cooking that would have been provided in a family context historically. There was a focus on living skills curriculum in the 1980's but for those who received tuition as advised in the same guidelines to maintain their skills they needed further training at home (DoE, 1987). Recurrent training (frequency) was required to build maintenance (automacy). Training required individualised tuition in a highly structured carefully sequenced programme and was time consuming (DoE, 1987). The disregard for culinary skills has been recognised as inhibiting peoples' community integration from institutional care particularly within the last twenty years. Life skills are now acknowledged as being an essential component in facilitating people with ID to live more independently in multiple settings (Graves, Collins, Schuster & Kleinert, 2005).

Culinary Skills

Cooking is a signature of our humanity. Cooking for oneself at home is the epitome of independent living. Cooking for a friend at home is a declaration of friendship, ability and competence. Lack of culinary skills and food knowledge creates a vacuum, thus enabling and maintaining disabling conditions. Competency requires continual practice with support and supervision in a safe controlled and hygienic environment (DoE, 1987).

Autonomy

Education may be liberating for many peoples removing historical constraints and improving their health, freedom and choice (Johnson et al., 2011). The delivery of lessons to people with ID should take account of the age of the learner and deliver the most appropriate training methods to develop skills but also their self-esteem (Bowman & Plourde, 2012).

Approaches to Education

Gastronomy studies do not currently include disability as part of their analysis. Special educational needs research traditionally examines the social, cultural and environmental nature of ID. Special educational needs research may be concerned primarily with non-exclusion and may not make culinary arts skills development a core focus for analysis. Educational researchers are currently working with people with ID to enhance their learning skills through the use of new technology (Sharpe, Beetham, & De Freitas, 2010).This proposal seeks to unite these two disciplines by empowering people to cook, while encouraging self-efficacy through video technology.

Professional/Personal Context

Having completed my formal education at seventeen years of age I aspired to become a culinary arts teacher. Following a few months training in a vocational college I began a formal apprenticeship working in hotels and restaurants with renowned chefs. In that time I obtained distinctions in my trade examinations, completed advanced training programmes in pastry, fish, sauce cookery and kitchen management and came third in the National Apprenticeship competition.

Following guild qualification I worked in Toronto for Trust-house hotel group before returning to Ireland to resume my studies while working full-time in senior culinary positions. Studying at night I obtained a degree, masters and post graduate diplomas in gastronomy, hospitality and new food product development. At the same time I moved into training, working with people with ID in high street settings. Together we opened five new establishments. The new businesses as social enterprises provided breakfast, lunch and afternoon tea to members of the public at reasonable cost. Staffing was provided by trained care staff, nurses, chefs, waiting staff, grounds persons and home economic teachers who were all assisted in their duties by people with varying degrees of ID. The aim of training was to enable their greater employability skills. I enjoyed the business aspect to the ventures though I was always concerned about the trainees more personal aspirations. This project stemmed from our collaborative interaction. The participants requested assistance to learn to cook at home and I needed a worthwhile achievable project to satisfy academic rigour for the reward of a doctorate in education.

Personal Professional Investment in the Study

When I look back on my career working with people with ID most of what I did in my mind was for the good of the SP, business or corporate identity. I look on this project as something I did personally with individuals. As it evolved the project for me became a biography of the challenges faced by people who happened to be born with a disability in Ireland at a period in time. There was a shared belief that people with disabilities had no future outside of hospital. One would have to also acknowledge that the resources available now in comparison to then are quite

considerable. They have a very important story to tell which I hope I have in some way carried out as part of this project to a positive end.

Professionally, I view the project as an exciting insight into how we learn, the difficulties which we as humans face personally, given we all have things that we find difficult to master. Overcoming difficulties with the addition of technology represents an important resource which I hope students will benefit from in my professional career for years to come.

Rationale and Significance

People with ID have greater opportunities for healthy food choice following nutritional training (Humphries et al., 2009). Food education is an essential component of independent living, building capability and enabling real community inclusion. The following are the guiding principles which I aimed to achieve with the permission, help and application of participants: Building a community of practice from where the participants can feel comfortable learning together; and establishing their own learning network where they are respected for what they bring to the challenge of cooking together. At the time of the study, the participants had meals cooked for them and menus were based on the broad preferences of their fellow housemates. This is an opportunity for them to learn to cook food at home that they like for themselves or friends. As part of the process of learning, the goals, dreams and aspirations of each individual were respectfully included in their training and lessons proceeded at their individual pace and level of engagement. The rationale for the project came from the participants, they identified cooking as a skill which was important for them to master. There is the potential for them to apply new learned

skills through the rest of their lives (Marks, Sisirak & Heller, 2010). They could be potentially cooking in their own homes in years to come as part of an independent living lifestyle. Being able to cook for oneself is a fundamental aspect to this journey.

Classification of People

There are a number of terms used to describe people with ID, none of which I agree with, though but for the purposes of comparative research I understand that clinical definitions make comparisons more accurate and scientific. I believe that labels such as Down syndrome have hampered and impaired the life expectations of children historically. I believe that parents now because of greater information, research and their determination have an increased expectancy of the life that their children will lead. The certificate course in contemporary living attended by people with ID at Trinity College, Dublin, including people with Down syndrome is a perfect example of how new life opportunities have broadened significantly today.

Service users were categorised on an ID scale which is the term I apply, that is used in comparative research and has been stipulated by the service in pursuit of this goal. For the development of a credible evidence-based methodology prior to beginning this project and as a means of comparative analysis the label moderate ID was used. Unfortunately labels are still applied to people in institutions though these are now called *service providers* and clients have been replaced by the term *service user*. To use these terms depersonalises the individual and creates invisible barriers which segregate them from the staff providing supports and others living in their communities. Classification diminishes the person's right as a fellow human being and reinforces the supremacy of others such as SP, teachers and care staff (Hurst,

2005). I have only used the term service user in this project because that is the description given to the person by the SP. It is also the term which I used to gain research and ethical permission for this project. It is the language of government, policy, legislation and SP not mine s used.

SUMMARY

This chapter outlines the rationale, significance and virtue of assisting adults with a moderate ID to become more self-determined in achieving goals which are important to them. The adult participants in this project are resident in community settings under the governance of a large service provider catering for the needs of 600 people with varying degrees of ID. The adult participant's training base is a community restaurant setting where they have been skilled in hospitality along with 17 other service users. There is no specific set period of training for them in the restaurant.

The purpose of this investigation through the application of assistive technology is to enable participants to learn to cook in their own home. The project is designed by myself and the participants working in collaboration to achieve their goals. We have previously worked together over the last 16 years in hospitality workshop settings. In this instance the needs of the participants are the primary concern.

CHAPTER 2

Introduction

This literature review reflects a systematic, critical analysis of research that demonstrates what has worked for people with ID in relation to their skills development to date. It sought to determine a systems approach to instructional design, effective instruction, and a valid research question that considered the participants, the materials, the learning environment, the content, culinary skills and educator. The main focus in the literature review was on evidence based studies. Objectives were to explore what had previously worked for adult learners and to determine what strategies would work in relation to the execution of this project. Terms of reference comprised a synopsis of research literature that demonstrated evidence based practice of learning for adults.

Firstly the chapter will outline how the most relevant literature relating to the instruction of adults was defined and sourced; secondly it will determine key aspects of special education for adults in the pursuit of life skills development towards their full inclusion in community living; thirdly it will consider the necessity of choice making skills towards inclusion; fourthly it will determine the application of culinary arts and culinary arts education towards self-efficacy. Next this review will look at the most traditional form of culinary education through apprenticeship and a more contemporary mode of skills acquisition which is immersion of the learner in real life scenarios. After immersion the review will examine a more cerebral form of training through cognitive apprenticeship which in contrast to traditional apprenticeship seeks to encourage greater exploration, articulation, self-reflection of the learner towards

their personal development. The passage from apprenticeship to cognitive apprenticeship mimics the development of behavioural theory to social learning theory where the innate power and potential of each individual learner to contribute to their personal development is recognised and encouraged.

Cognitive apprenticeship leads on to literature that is specifically focussed on the personal development of people with disabilities through person-centred care. Self Determination is the next topic which is identified in the literature review which is followed by self-actualisation. Since self-actualisation is associated in literature with motivational theories both Maslow's hierarchy of needs and Hertzberger's two-factor theory are briefly examined. This is followed by a review of evidence of skills acquisition and maintenance and delivery of instruction for adults with ID.

There are numerous learning theories that have been conceived as conceptual frameworks to explain human behaviour. Although the literature encompasses a significant cache of such theories, this review will focus on three significant theories which emerge consistently in research relating to how adults with disabilities learn. Behavioural theory, social learning theory and social constructivist theory occur consistently in adult educational research. Each theory makes an attempt to describe how the motivational force of people with disabilities can be either encouraged or directed into making them act in a specific way. In this review rather than making an attempt to find the best way to encourage or direct people with ID to a given end, I seek to find a way through the literature for them to acquire, maintain and generalise culinary skills to their own ends. Theoretical examination is followed by analysis of the critical aspects of teaching adults with ID. Scrutiny of systematic instruction (SI),

task analysis, and antecedent strategies is carried out under the overarching rubric of behavioural theory. Skills development, Applied Behaviour Analysis (ABA) and prompting are also examined within the same domain.

The literature review then looks at the role of social learning theory, community of practice and active learning. The next learning theory to be scrutinised is constructivism. Experiential learning is defined as part of the analysis of constructivism followed by self-instruction theory, technology and visual antecedents. Linked to these in this review and examined in detail are two forms of visual instruction which are VM and Video Self Modelling (VSM).

Finally the review will examine research conducted with adults with ID in relation to their positive experience of learning at third level education and finally the key insights from the literature which informed the study are outlined to enable participants in their quest for personal development.

Search of research literature and search parameters

A general search of educational research theory was carried out using the ERIC database at the Institute of Education Sciences. Thereafter a more detailed search was conducted using the key words adult with moderate ID, cooking and video self-modelling on the Dublin City University (DCU) database using the Summon option of the search engine. The term learning disability and severe learning disability had been included in the submission for ethical clearance to the service provider where the participants are based. They stipulated that only the term intellectual disability should apply to this investigation to gain their consent.

Summon is a customised search engine that enables the researcher to conduct an extensive search across most of DCU's on-line resources all at once. Given that the literature reviewed encompassed a broad array of research pertaining to education, special education and psychology, Summon was the most practical option for analysis given that all the articles identified were peer reviewed. Following further review of the identified material I narrowed my search specifically to adults with moderate ID which I could contrast accurately with participants in this study. The search resulted in the identification of academic papers of which almost half were journal articles and the remainder book/e-book articles.

Using the above identified literature an additional more specific search was conducted which included the following key words; video-modelling, skills, self-talk, cooking, moderate ID, restricted to articles published from 2010 onwards from which 7880 academic articles were identified. There was very little evidence of self-talk literature in the articles related to ID. Again a search was conducted without the time restriction on publications from 2010 which yielded evidence of self-talk used, not for culinary endeavours but in the context of sport skills development for athletes. Athletes' sports performance during training was generally found to have improved when they spoke overtly using self-generated verbal cues. The researcher deemed the use of self-generated verbal cues to be applicable in the context of this project as vocalisation of self-instruction by participants may assist them with their skills development.

The DCU database search engine was again employed using Summon with the following key words; self-talk, cooking and moderate ID. The review was not

restricted to a limited timeframe. So learning strategies such as behavioural theory, constructivism and social learning theory that had proved to be successful in the 1980s could potentially be employed by students using new technology. A total of 162 items were recovered including 86 journal articles, 71 book/e-books: Three book and magazine reviews. In addition to the above searches terms such as verbal cue and self-narrative were also included in additional periodic searches. Other terms such as positive and negative self-talk were omitted from searches as though the terms seem similar they are not the same. From these searches the literature was examined with relevance to this project and how an evidence based methodology would be applied successfully in terms of this project.

Life Skills

As part of the vision for people with disabilities to live in 2016 the Irish government, through social partnership, agreed on them having to the greatest extent possible, an opportunity to live a full life in their local community and to maximise their potential (GoI, 2006). The move from the family home, institutional care or residential home to more independent living for people is challenging.

Choice

Adults with disabilities regardless of the nature of their condition should have the opportunity to exercise choice in the life skills they desire. Facilitation of these requirements has been recognised as an essential ingredient to build independence with less supervision and supports (Mechling, Gast & Gustafson, 2009).

The ability to enable SD involves the application of a number of skills including knowledge, choice and experience. In particular in relation to adults with ID recognition and respect of their right to choice is fundamental to enabling them to fulfil their dreams. Deciding what one eats is a valid starting point. Participants in this project had the opportunity to choose the ingredients from which recipes were devised based on their personal preferences.

Diet

People who live in care facilities are dependent on the culture of their individual setting. Meal option facilities are strictly dependent on time, resources and their application. Dining is usually carried out in a communal, collective regime. Making the decision to cook oneself a meal is dependent on one's capacity to actually do the cooking (Struhkamp, 2005). While our diet fulfils primary needs, it symbolises so much more: Having links to well-being, health, nutrition and QOL (Wood, 1995). Involvement in this project could provide participants with the knowledge to make informed choices in relation to their health (Kolb, 1984).

Culinary Arts

If food is a code, it can be unlocked by language to express different social patterns and degrees of hierarchy, inclusion, exclusion and transaction across boundaries encoded within (Douglas, 1972). Language mimics man's evolution from primates and may provide the key to unlock instinctive skills that are inherent in everybody, as every being is motivated by food. Cooking in some cultures is a metaphor for the transformation of life across those same boundaries (Armesto, 2002). Moving to a

position where one can exercise control over what one eats through the application of culinary arts is a significant boundary leap.

The domain is still not fully understood in social sciences though that such a vital activity should remain unchartered should not discourage enlightenment (Mintz, 1994). As a unique discipline, it has been described as an activity which lacks rigour and focus (Hegarty, 2004). The flexible, hazy nature of the activity and the number of potential outcomes to any one cooking process is a positive aspect to culinary education allowing students to present aspects of themselves in their work.

Culinary Arts Education

We may live well without possessing high academic competencies and also learn to become competent cooks. For the cooks who prepare the best meals are not great innovators or polymaths, just really consistent, disciplined people (Bourdain, 2000). To be disciplined one need not be literate as the greatest cooks down through the ages were often non-literate and trained in the oral tradition (Wheaton, 1983). The acquisition and ownership of cooking skills has been previously researched by Hartmann, Dohle & Siegrist (2013). After linking the frequency of consumption of various social groups, findings demonstrated that those with cooking skills correlated positively with weekly vegetable consumption and negatively with convenience food consumption (Hartman et al., 2013). Cooking skills traditionally were taught by means of an apprenticeship.

Apprenticeship

Apprenticeship as a means of delivering education spans the boundaries between doing and thinking, culture, history and tradition. Collins, Brown and Newman (1989) described it as the way we as humans learn most naturally. Though learning in the realm was not easy, it was a challenging and difficult endeavour (Halpern, 2009). An apprenticeship to a master craftsman reflects a life journey on a pathway to enlightenment and metaphorically reflects the movement from youth to adulthood, from dependency to independence, from entrenchment to transformation (Cole, John-Steiner, Scribner & Souberman, 1978).

The skills taught are mastered by apprentices and are fundamental to the production of goods/art. Lave (2011) determined that during apprenticeship the context of learning is everything and that situativity is the most important aspect of this educational realm. The inseparability of knowledge and the situations in which it is learnt was recognised by Brown, Collins & Duguid (1989). It is challenging therefore for the educator to build trainees skills to a level of competency from which skills are transferable to new domains. The application of these skills in these new domains makes their mastery worthwhile and of real life value (Drasgow, Wolery, Halle & Hajiaghamohseni, 2011).

Immersion

In contrast to traditional apprenticeship, training in culinary arts now takes place through Immersion (Farrell, 2013). Immersion evolved in education as a means of transferring linguistic knowledge quickly in context to the student. This educational process involved the student living in the place of the target language, listening, being

spoken to and conversing there with real people (Swain & Johnson, 1997). Simulation is a means of putting the student in real-life scenarios but with close support so they will not come to harm (Kinch, 2016).

Simulation in the context of culinary arts immersion involves students training in a real industrial kitchen as opposed to a domestic kitchen classroom. Immersion helps build student competences' so that when they progress to cook in other kitchens, they do so with confidence. In this new realm learning is more active, personalised and is effective for people with special educational needs (Centre for Autism & Related Disorders, 2011).

Cognitive Apprenticeship

The term cognitive apprenticeship was conceived to reflect a more cerebral form of apprenticeship developed through modelling, scaffolding, coaching and fading which reinforced the situated nature of knowledge delivered by a master to a student (Collins et al., 1989). The approach is a process based intervention which is sequence driven to scaffold individual's skills acquisition. The process is engaging for the student and hands on. The tutor facilitates and guides the student in each learning activity to encourage and support their skills development. In this context trainees are encouraged to develop their own style allowing guidance to be gradually withdrawn as they gain competence (Pea, 2004). The learner is encouraged to build their own style and move to a position of independence. This independence is guided by the motivation of the learner; the social context of the learning environment and the different methods of instruction employed by the teacher (Herman & Gomez, 2009).

Person-Centred Planning

Recognition of the learner's ability to be self-determined is part of the personal-centred planning cycle. Brewster & Ramcharan (2005) suggests that PCP places the person at the centre of all their life processes and includes themselves and their advocates and supporters, not professionals, with the support of their family to realise plans. PCP enables people to achieve personal goal setting and decision making in relation to their future expectations.

Person-centeredness involves respecting each person's right to choice and tailoring supports for them to grow and experience socially valued roles in their community (Kinsella, 2012). A record of their pathway is fundamental to the process. The creation of their path is an acknowledgement of their individual identity and recognition of their primary needs (Maslow, 1943). The process acknowledges their rights and encourages them to set more long term goals to fulfil their future expectations.

Agran and Wehmeyer (2000) have argued that enhanced SD for adults with ID could have a positive influence on their potential future using self-directed learning strategies including self-evaluation, prompting, self-reinforcement and goal setting. In reality the provision of help or assistance for a person with ID who has requested support puts theory into practice and forms the bridge for a natural social exchange.

Self-determination

People with adaptive skill deficits find socialisation, community participation and SD challenging. Wehmeyer (1996) identifies the challenge of taking part in real life

scenarios for them such as making decisions about one's future. Enabling people to take more control and more responsibility for their own life goals will not only benefit them practically as participation in the training process will help them to achieve real desirable societal goals (Wehmeyer, 1996). Historically too many individuals in special education grew into adults without learning how to make personal decisions about their life goals. Social barriers limited their real opportunity to self-advocate (Mithaug, 1996).

Self-advocation is a process which requires the removal of life limiting barriers. To self- advocate and enable transition from communal to independent living one has to be prepared to learn to live alone and be dependent on one-self. This basic concept supports the notion that students who believe they can do a task and who believe they are in control, in general are more likely to succeed (Pintrich & De Grout, 1990). Maslow (1954) makes an interesting point by distinguishing between motivation in relation to living and preparing to live. A causal agent makes or causes things to happen in their life (Deci & Ryan, 1985). Positive education should not focus merely on didactic instruction it should be focussed on delivering self- actualisation (Maslow, 1954).

Learning is not a passive process; interaction with our environment determines our phenotype (Scarr, 1993). We achieve what we believe we can. Wehmeyer (1996) defined self- efficacy as a key component of SD. Self-efficacy can be developed through mastery of experiences, also by vicarious experiences provided by social models, persuasion and reduction of stress to alter negative emotional feelings (Bandura, 1994). There is a substantial body of evidence in the literature which

reflects the effectiveness of SD training at all stages of the student's journey and the application of this approach should be recognised (NCSE, 2013).

Self-determination is the combination of skills, knowledge, and beliefs that enable a person to engage in goal-directed, self-regulated, autonomous behaviour (Algozzine, Browder, Karoven, Test & Wood, 2001). Educators are encouraged to promote SD skills for adults with ID as they have consistently emphasised its importance as an outcome for an enhanced QOL (Wehmeyer & Schwartz, 1997). SD can contribute to greater involvement by the student in education, planning and facilitate their personal involvement in the lesson. Promoting choice, making opportunities and teaching choice making skills is a key component of person centeredness (Shogren, Fagella-Luby, Jik Bae & Wehmeyer, 2004). Each person should experience choice and control in their daily life in accordance with their preferences. Having the capacity to choose and to have those choices to be the determinant of one's own actions is the definition of SD (Deci & Ryan, 1985). Students need to know they are casual agents and educational emphasis needs to be placed on involving them in their programme which inevitably has the potential to increase their motivation (Wehmeyer & Schwartz, 1997).

Self-actualisation

Motivation is a psychological process that has been explained as a drive to satisfy a need. A need is physiological or psychological deficiency that makes desire of a specific outcome attractive (Eyre, 1993). Unsatisfied needs in turn link to drives to attain specific goals, if these are achieved then needs are satisfied (Robbins &

Coulter, 2002). Consequently needs which are desired but not met result in loss of motivation, anxiety and feelings of helplessness (Eyre, 1993).

Motivation develops from within and is a frame of mind which can be encouraged by external factors or triggers including security, status, skills development, knowledge, goals or aspirations (Maslow, 1943). Consequently a positive environment, rapport, recognition, status and involvement are important factors in encouraging student motivation (Eyre, 1993). Motivation is a key component in the drive to learn for all students.

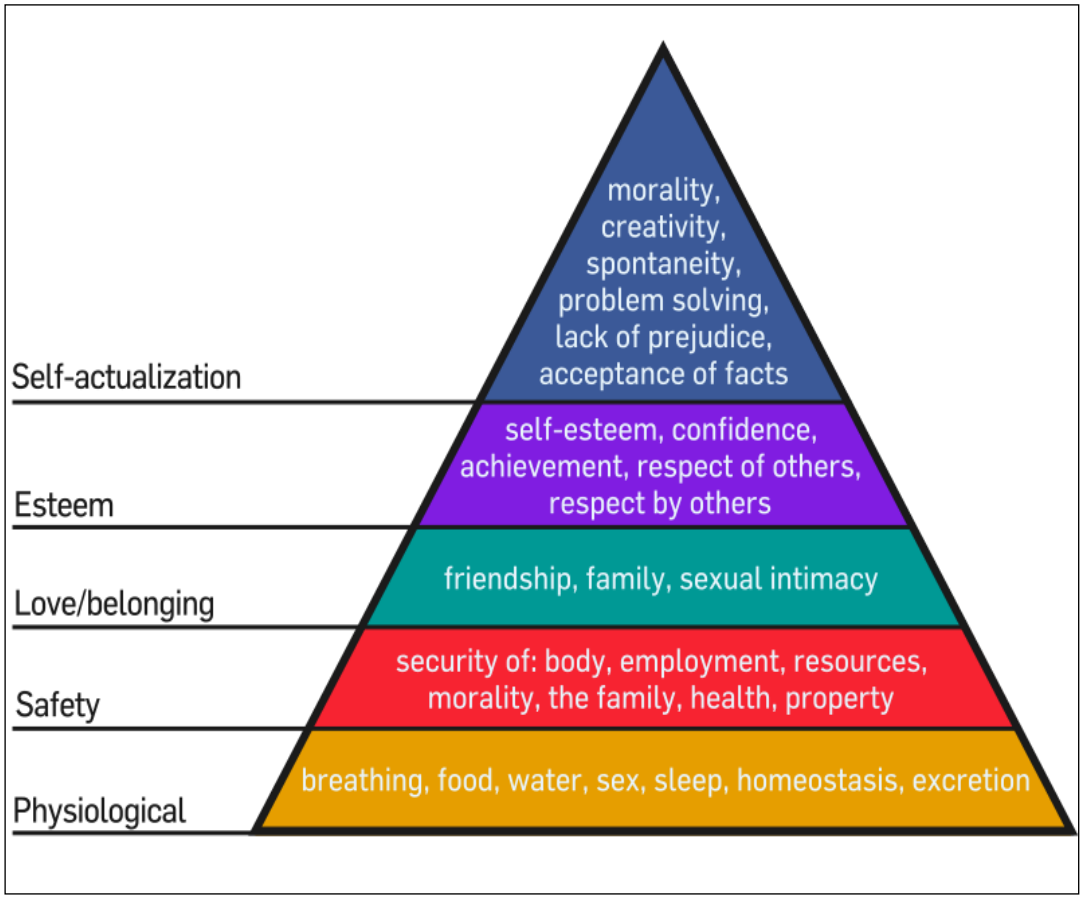

Figure 2.1 Maslow's Hierarchy of Needs (Maslow, 1943).

From the humanistic realm Maslow's theory (1943) reflect triggers which influence mankind intrinsically. The motivational force comes from within to change or do

what is needed to progress. Self-actualisation may be an intrinsic desire and very different for each individual but involves social participation, self-discipline, confidence and approbation (Pintrich & De Groot, 1990). While Maslow's hierarchy of basic needs represent a pyramidal shape beginning with physiological needs building up to self-fulfilment needs the design is not immutable (Maslow, 1943). In some peoples' lives stages are reversed or ignored and they may have made (or not) a conscious decision to forgo the satisfaction of many needs in the pursuit of self-fulfilment (Eyre, 1993). The model is therefore very simplistic and contemporary ideology disproves the presence of the original need categories and doubts the directional hierarchy put forward by Maslow. Yet the model still portrays a clear navigable portrait of the beliefs and desires innate in all humans. To know the value of levels of hierarchy is a significant factor for students which reinforces a tenet of Maslow's theory and resonates also within Hertzberg's theoretical research.

Herzberg Two Factor Theory

While Hertzberg (1966) developed his theory in the context of a work setting it is equally suited to a training or educational environment because similar forces are at play. Hertzberg (1966) identified hygiene (or maintenance) factors and motivation factors in the field of motivational theory. The latter of these include achievement, recognition of achievement, the work itself, responsibility and self-satisfaction are important specifically within the context of this investigation. For this collaborative investigation to succeed, the students must be encouraged to build their self-confidence, self-efficacy and self-belief.

Motivation for People with ID

Awareness of motivational forces is especially critical when participating in research with people with ID. A fundamental principle of motivation from a behavioural perspective, in operant conditioning, is that the student receives reward or reinforcement, namely a positive consequence, for successful action and is therefore encouraged to repeat the behaviour again in similar circumstances (Skinner, 1953). Although continued reward of the same reinforcement results in satiation and the weary student's motivation is depleted (Drasgow et al., 2011). The value to students of extrinsic motivators is variable therefore.

If one can translate the value of new skills acquisition to learners then their enthusiasm and motivation to participate will grow. Further extrinsic motivational cues depend on an age appropriate instructional design, experiment through real life experiences and student-centred technology based instruction (Dowrick & Skouge, 2001). It is appropriate to encourage self- directed learning using self-generated mediators including self-modelling and self-instruction to prompt behaviour (Mechling, Gast & Fields, 2008).

Teaching and Learning for Adults with Moderate Intellectual Disability

Duggan and Byrne (2013) identify that current research data in relation to people with ID suggest that there is a need for review, monitoring and development of new innovative strategies to support their continued participation and training in education. The world is changing so quickly that the learning society has to keep pace. Education is no longer a privilege or no longer a right; it is a necessity (Cross, 1981).

There are currently barriers to higher education for adults with disabilities in Ireland: Open access, participation and their full inclusion cannot occur without additional supports (Kubiak, 2013). These include universal design, consultation and exercise of greater SD by them. Adults need to be given the space to exercise greater SD, self-advocacy and self-efficacy and work towards their own education (Duggan & Byrne, 2013). Research to determine how people with ID learn should only be carried inclusively in a co-participatory discourse (Kubiak et al., 2013). The central role of the educator is recognised as being imperative to the creation of a learning environment where positive experiences are generated by students through the production of positive student teacher relationships (Kubiak, Fortune, Shields, Power, Murphy, Baird & Lacey, 2013). Instructional efficiency should be based on evidence based practice and whether students learned from that practice (Drasgow et al., 2011).

It is a cyclical process because learning can be supported but not designed; belonging to the realm of experience and practice (Drasgow et al., 2011). Design therefore must be a systematic, planned and reflexive action which facilitates learning. Educational design must be a critical colonisation of curriculum time and space with evidence based educational strategies in the most appropriate manner and mix to suit the learning needs of each individual (Brown, Hamre-Nietupski, Lyon, Branston, Falvey & Gruenwald, 1978). This can be achieved by utilising creative, innovative strategies working *with* the person involved and not *on* them (Gold, 1980).The aim of the educational instruction is to build theory from practice, produce experience through experimentation leading to purposeful learning and freedom in the unification of theory and practice (Dewey, 1938).

A learner may need to begin with more than one learning system. No one size fits all. The learner may also require more advanced assistance which can adjust with learning a task, provide fewer prompts or cluster steps under one visual prompt to further enhance their skills acquisition (Lancioni, Van den Hof, Furniss, O'Reilly & Cunha, 1999). Self-generated mediators transfer control to the student, self-management strategies give individuals more control. Improved control may lead to greater performance in a variety of environments for the student (Mechling et al., 2008).

Adults with ID

The goal for the student does not have to be linked to academic achievement. Adult education can contribute to the self-actualisation of the person and the goal of the instructor is to facilitate the student to become a self-directed learner (Knowles, 1980). Self-control of learning can be exercised by the student through participation in self- regulation through generation of self-instruction cues, self-verbalisation, self-prompting and self-modelling. Ultimately one's impression of one's perceived self-efficacy is shaped by one's actual task accomplishments and vicarious experiences: Self-instruction is self-reinforcing (Bandura, 1977). The more opportunity a person has for self-instruction the greater the proportionate growth there is in their own self-belief to achieve (Schunk, 1985). Self- verbalisation was hypothesised to be an important means of increasing self-efficacy (Mechling, 2008). Verbalisation can assist performance. Decreasing the need for continuous supervision and prompting by others continues to be an educational focus for students with ID (Mechling, 2008).Greater perceived control raises self-efficacy that promotes task motivation and learning (Schunk, 1986). The application of adult pedagogies could effectively

facilitate greater participation of people with ID in Ireland in adult and continuing education (NCSE, 2013).

Behavioural Theory

Behavioural theory or the behavioural approach is a dynamic approach to education that best satisfies the action and reaction mode of learning. It is concerned with detailed study of behaviour. Behaviour is the observable response that occurs in the presence of the antecedent or environmental event and produces the consequence as identified by Skinner (1938) in the behavioural model. In this field, we will look at operant conditioning, classical conditioning and observational learning.

This psychomotor domain of learning includes Blooms (1956) taxonomy of perception, set, guided response, mechanism, complete overt response, adaption and organisation. There are five stages in skills development, beginning at acquisition which is the ability to perform all components of the behaviour (Alberto & Troutman, 2009). This skill can be developed through guided practice. Guided practice is an opportunity for the student to gain experience and insight to grasp how the skill is performed. A skills audit provides baseline data and is the primary starting point prior to training to identify current performance levels of students (Hayton & Loveder, 1992).

To ensure successful skills acquisition for learners with ID it is necessary for them to carry out a chain of tasks in a sequence repeatedly. With practice and time they learn to execute and string the tasks in the proper order through repetition until the sequence becomes reflexive action. Fluency reflects the rate and speed of the action and requires practice. Fluency is guided by feedback and reinforcement but requires

discipline. Consistency is the overall goal requiring measurement and accuracy (Drasgow et al., 2011).

The next stages of learning are generalisation and maintenance, the former involves the recurrence of the behaviour in another setting the latter recurrence of the behaviour over time (Stokes & Baer, 1977). Maintenance reflects the effectiveness of the instruction through the measurement of skill levels after instruction has ceased. The goal of their instruction is for individuals to be able to reproduce their performance reflexively in a natural environment. If instruction has been successful then they will do so (Drasgow et al., 2011). Generalisation reflects the aptitude to be able to use the skills in real life scenarios or environments.

Here the rudimentary tactile learning of stimulus and response exist. The beauty and effectiveness of these components lie in their simplicity. The application of stimuli can result in unconditioned or conditioned responses and early advocates such as Pavlov and Skinner succeeded in conditioning dogs and rats respectively (Naik, 1998). The primary phase in the instruction of culinary arts is the development the learner's motor skills. Skills development in this fashion can create automatic responses or automatisms. Therefore new skills are produced and are executed in a reflexive fashion as a complete overt response or unconscious competence (Drasgow et al., 2011).

Systematic Instruction

The traditional educational philosophy in the 1970s was to build skills competency for students through their acquisition of simple motor, social and cognitive

performance in rigid steps that took no account of the special educational requirements of those with disabilities (Brown et al., 1979). These educational programmes incorporated curricula that were designed from classical learning theories of child development such as behavioural, social learning and constructivism. While the approach was empirically based on best practice at that time for generic human development, it was not compatible with training in life skills for people who could not progress sequentially through regular training cycles due to disabilities (Brown, Hamre-Nietupski, Lyon, Branston, McLean, Falvey, & Gruenwald, 1978). Behavioural educational theory presents a simple evidenced based means of training.

Systematic instruction is a training medium that is a highly organised, scripted, repeatable, predictable process that reflects and supports current best practice to make educational modifications to instruction (Snell, 1983).Tuition is concerned with clinical, defined response, discrete or in a chain that is generated by prompting and feedback based on behaviour modification principles of stimulus, response and consequence.

Task Analysis

For instructional purposes task analysis was the key component that enabled the researcher to build up participant's "skill repertoire methodically" (Storey & Miner, 2011, p. 29). Each activity was broken down into component tasks that were identified, recorded, delivered and learnt by participants in sequence. Task analysis identified the simplest sequence and facilitated individualised instruction based on the adults own personal characteristics for the completion of a task to the required standard.

Skills were demonstrated in a sequence by the educator which the student must replicate in the same sequential fashion, imitating all steps simultaneously. This chaining or total task training is a strategy whereby the tutor teaches all as opposed to individual steps. The benefit of the approach is that the student learnt not only the individual step in a chain but also the sequence (Johnson & Cuvo, 1981). The learning replicated the discipline of an apprenticeship. The activity was observable and the output tangible (Collins, Brown, Holum, 1991).

This strategy established a means of developing and maintaining skills best delivered through sequential, repetitive hands on training. Repetitive skills development generated an automatic response pattern for the learner, which enabled disabled students to develop similar automaticity to others in mainstream (McGee, Almeida, Sulzer-Azaroff & Feldman, 1992).

Observational Approaches to Teaching and Learning

Observation is a fundamental principle of SI and most applicable to special needs education being non-intrusive, non-restrictive to the learner and does not limit their space or freedom (Keith, 1979). It is an educational strategy that stems from the premise of learning by watching others, and imitation of observed behaviours (Mechling, 2005).Observation, modelling and imitation are the three main terms that are used interchangeably. Observation can occur through modelling, through using visual images or in reality. It is how we first learn as children naturally. It is therefore a very inclusive and almost universal instrument.

Observation of a model stimulates the student's cognitive process and learning may occur without reinforcement. Imitation occurs when the student wants to match the generalised behaviour of the model (McDonnell, 2011). The process is simple to carry out, effective in all domains and egalitarian.

Antecedent Strategies

Antecedents are described as environmental cues which trigger behaviour (Drasgow et al., 2011). Antecedent strategies have been employed to facilitate behaviour modification. An instruction cue is the antecedent to the behaviour and acted as a stimulus for the behaviour to occur (Wehmeyer, Agran & Hughes, 1999). Instruction cues to single step tasks can include visual images complete with verbal statements (Ayres, Maguire & McClimon, 2009).

Mechling (2007) reviewed empirical literature from 1990 to 2005 which related to the application of AT as a self-management tool for persons with ID. Forty investigations reviewed provided data on AT that had been used to initiate and complete students' daily living tasks. Areas of research which were defined in the literature included the self- application of pictorial prompts, tactile prompts, auditory prompts and computer aided prompts by participants. Findings determined that the self-application of antecedent prompts by participants was better facilitated if applied in conjunction with AT. Findings supported the further application of AT as a tool in the application of special education. The author recognised the potential for future implementation of multi-layered animated information including video and multi-media features that could further address the individualised learning styles of students positively (Mechling, 2007).

Applied Behavioural Analysis

Applied behavioural analysis is a form of systematic instruction which has been successfully employed to train people with ID. This type of SI has evolved in the field of psychology to create evidence based techniques and principles that seek to develop positive meaningful changes in behaviour. It is a behavioural approach that is scientifically validated. The model was based on the interplay that was identified to exist between antecedent, behaviour and consequence (Skinner, 1938). In the model antecedents and consequences are positioned to be independent variables while behaviour is the dependent one (Drasgow et al., 2011). ABA uses a variety of strategies to bring about positive change in the lives of people with disabilities including the use of a prompt. A prompt is additional stimuli which can be applied to help motivate a student perform a task in the presence of an antecedent specified in the behavioural objective (Drasgow et al., 2011).

Prompting

Prompts may be verbal, gestural or physical: Prompts encourage positive behaviour. Prompt sequence should be based on the capabilities of the learner and their previous learning (Wehman, Renzaglia & Bates, 1985). Though prompts are most usually instigated by the teacher or self-operated by the student, they can also be self-generated. Prompting may also be self- directed and has included self-generated mediators to include self-instruction and self-talk (Mechling et al., 2008). As the student controls the stimulus the student has control of their learning and the process is self-empowering (Wilson, Schepis & Mason-Main, 1987).

Social Learning Theory

Social learning theory (SLT) bridged the link between behaviourism and cognitive learning theories and acknowledged that people can learn from one another. SLT supports the view that an individual's knowledge was directly related to their observation of others within the context of social activities, personal experiences and the influence of media (Bandura, 1986). SLT and behaviourism both place strong emphasis on how the environment influenced a person's action. SLT demonstrated how cognitive theory had progressed from the behavioural position whereby the student was viewed as a passive learner to an acknowledgement that the learner was in fact actively engaged in the process. Being in opposition to the philosophy of stimulus and response familiar to the behavioural field, SLT acknowledged the higher order, complex, cognitive capability of humans especially in relation to attention, memory and motivation.

While Albert Bandura (1971) acknowledged that we learn from one another through observation; social media and advanced technology have made the medium a strong tool for emancipation. Perhaps in the context of adult education for people with a moderate ID this medium is more egalitarian and emancipatory: As learning is activated through the modification of stimulus (observational data) as opposed to manipulation by antecedents. No incentive was required for students to learn as they did so automatically through observation.

Social learning theory portrayed the significant strength of visual data in the learning process and the worthiness of the medium. Rather than relying on a historical notion of man as merely a pawn in the circle of life driven by stimulus and response SLT

acknowledged that “man is a thinking organism possessing capabilities that provide him with some power of SD” (Bandura, 1971, p. 2). Bandura encapsulated the intrinsic motivational force innate in humans and identified personal learning zones where self-reflection occurred. He also acknowledged the cognitive dimension of man by encompassing memory and attention into SLT. The concept being that for one to be an agent one must have the capacity to exert control over one’s quality of life. To be an agent is to play a part in one’s own self-development and to intrinsically make things happen (Bandura, 2001). Bandura (1997) recognised how ones environment is a determinant of behaviour: A constructed environment allowed one to become self-determined beyond the limitations of one’s circumstance.

Community of Practice

Social Learning Theory (SLT) recognises the usefulness of learning strategies including classical and operant conditioning but also acknowledges the important interaction between stimuli and response that occurs during training. We are social animals and we learn when we engage in social practice to create learning communities. Communities of practice (COP) are everywhere and we have all belonged to them (Wenger, 1998). Learning was enhanced in a community who met regularly and had a shared goal. Though learning did not simply occur in every collective group of people, they needed to interact, associate and practice towards a shared goal. Learning is so defined as interplay between social competence and personal experience. It is a matter of engagement, dependent on opportunities to contribute actively in the practices of communities we value.

Learning transforms our ability to participate in the world by changing us. Learning which takes place through remembering our interaction with others can be guided by language (Vygotsky, 1978). As children we conceptualise what we are doing when carrying out difficult tasks through vocalisation. As we mature this voice moves internally and our communicable abilities recede. Being active in a community and constructing ones identity in relation to that community through co-communication is a primary focus of COP. Language has the power to shape our consciousness by providing stimulus that we use to interpret and manipulate our environment (Wells, 2009).

Integration of meaning, practice, community and identity are necessary to characterise social participation (Wenger, 1998). Learning is dependent on the individual contributing to the community and the communities refining their practice for future effect and their continued growth (Wenger, 1998). There is inter-dependency for people creating their own society, we live in a social space with others which we can expand to allow each other maximum freedom (Mc Cormack, 2002). By attempting to create our own space as an individual community we practise our right to SD.

Active Learning

The evolution of learning communities was dependent on a combination of engagement, imagination, and alignment to generate the interplay between the local and the worldwide engine of new learning (Wenger, 1998). Historically, the prevailing cognitive theory of learning was that it was merely a means of processing information including facts and procedures without any reference to context.

Theorists viewed learning as transformations in these cognitive structures with a pedagogical focus on communication, explanation, recombination, contrast, inference and problem solving (Hutchins, 1995). From the perspective of people with ID, in practice their learning worked best when it was conducted as an activity delivered through SI (Drasgow et al., 2011). Activity demanded focus, focus generated engagement and engagement required commitment which in turn drove learning. Learning that was linked to past experience and took the form of real world tasks made curricular objectives come to life. In time as identified by Dewey (1938) learning activities should grow from experience and be derived from the students themselves with teacher as facilitator.

Constructivism

Constructivism has been conceptualised by authors including Dewey (1929), Piaget (1952) and Vygotsky (1978) and was most appropriate for adult education. As constructivism provided recognition of prior learning from student's past experience from which the tutor could scaffold and develop new skills. The common thread between authors in this genre was that knowledge was seen to exist in the individual activities of the student and that they learnt by doing. The focus then as now was on knowledge that grew out of socially relevant productive action (Wells, 2009).Vygotsky recognised the importance of communal learning and the influence of environment.

Piaget (1952) identified four cognitive stages of learning that began with sensori-motor stage, pre-operational stage, concrete operational stage and operational stage. Piaget took a natural science perspective. In contrast Vygotsky a contemporary of

Piaget viewed cognitive development to be stimulated and enhanced from the unique individualistic social experiences that permeate childhood. A zone of proximal development navigated a world between what a child could do with guidance, not at all and what they had already learnt to do. Vygotsky was more concerned with how one interacted with culture and society. He was very interested in how speech and language navigated new knowledge experiences laid down as the building blocks to bring about learning. Most significantly language was identified as the primary psychological tool. mIn order for students to construct knowledge it was necessary for them to share it and articulate their positive and negative experiences.

Dewey (1938) recognised the inherent value of experience as even in failure there was an opportunity to learn. The creation of experience through communication and collaboration were critical to learning. It is through our interpretation of others and dialogue with them that we extend our higher mental functioning to create our own vernacular internally (Wells, 2009).

Situativity and Socio-cultural Approaches

The importance of Situativity as recognised in constructivist literature was especially important. Resnick (1987) looked at learning in everyday activities outside of the classroom and identified learning taking place in socially shared activities rather than individual learning. Learning occurred through direct engagement rather than de-contextualised symbolic thinking. Learning occurred through the use of cognitive tools rather than thought and students learned situation specific skills rather than general skills (Fletcher, 2009).

Experiential Learning

Experiential education attempts to nurture the relationship between tutor and student in an effort to encourage active participation in their learning. Rather than creating a virtual classroom it is more productive to work with students themselves (Wells, 2009). Some learning such as skills development is impossible to learn through theory, one has to participate. Experiential learning occurs when unique experiences are synthesised by space for reflection and critical analysis. An intervention that encompasses all the positive qualities of each theoretical perspective into one approach will facilitate learning that is self-determined and worthwhile for individuals. Experiential learning is not included in this review to be in theoretical opposition to behavioural or cognitive learning theories but merely to emphasis the value of doing, the intrinsic value of output for the student and its potential value to them in life.

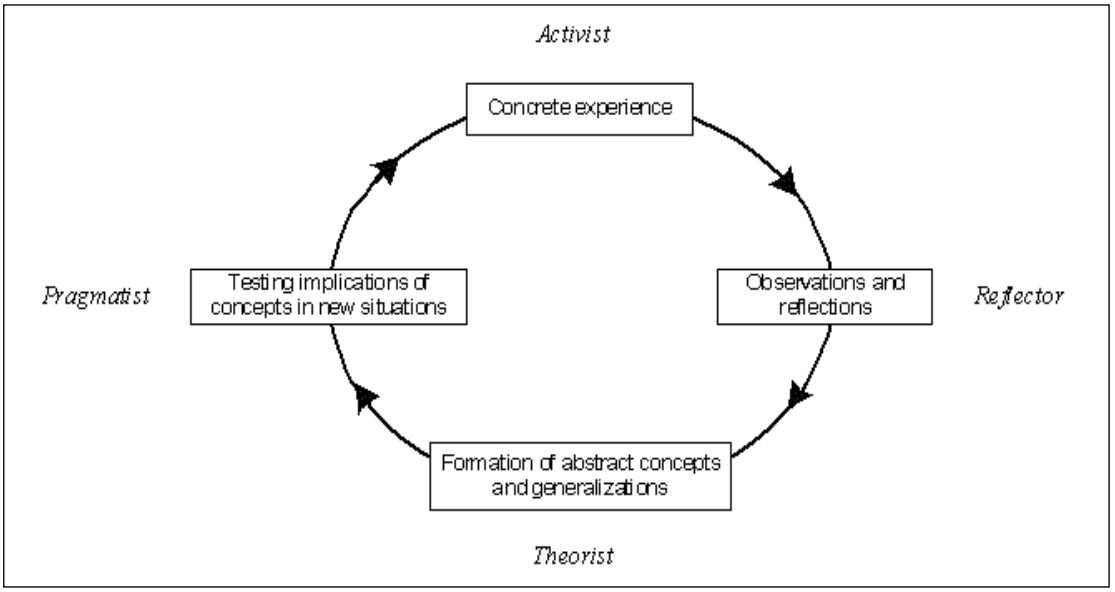

Figure 2.2 The Lewinian Experiential Learning Model (Lewin, 1946)

The above diagram was developed as a hybrid by Kurt Lewin from Action Research (AR) and laboratory training to emphasise the importance of present day experience gained through activity. This knowledge was enhanced through the application of additional data and observational materials. So learning becomes an acquisition process to improve one's education, work and personal development. Reflection improves future performance through feedback.

The model conceptualises the thoughts of a fore runner of Lewin, John Dewey. Knowing involves a dialectical process of making tacit knowledge explicit so that "theory becomes embodied knowledge and drawing theories out of practice, so that theory has the potential to emerge again as new theory" (McNiff & Whitehead, 2011, p.103).

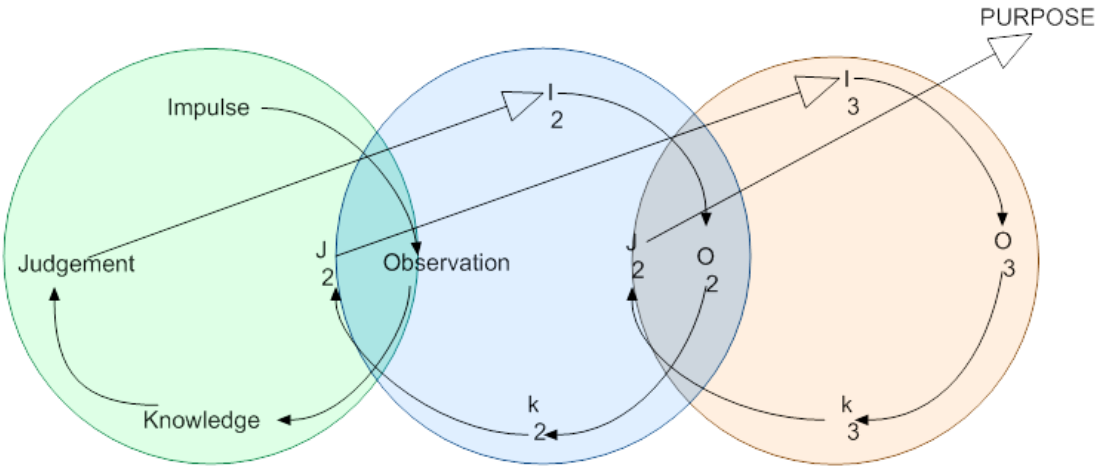

Figure 2.3 Dewey's Model of Experiential Learning (Dewey, 1938).

Similarly to Lewin, Dewey emphasised learning as a dialectic process integrating action, experience, through observation and concepts (Kolb, 1984). Dewey articulated how learning transformed experience into higher order purposeful action. There was a celebration in experiential learning of the participation 'now' in the process of learning and not specifically on the outcomes. Therefore the learning becomes a valid

aim in itself not purely for something to do but something that is noteworthy of, valid, dynamic and perishable. The model also supported the individuality of students and recognised that no two thought processes or experiences for individuals are the same. Nor do we experience them in the same way. The emphasis for the student should be on personal learning not in providing generalisations about education (Koshy, 2005).

Self-instruction Theory

Self-instruction is a teaching strategy to facilitate personal learning that enabled the student to plan, organise and evaluate their own performance without prompts (Wehmeyer, 1992). Self-instruction enabled a student to take more responsibility for their personal learning and contributed to their greater SD (Wehmeyer, Agran & Hughes, 1998). It has helped in the self-management of existing skills and the building of new ones. The process is non-conspicuous and promotes independence (Wehmeyer, 2011). There are three aspects to teaching self- instruction which began with the development of skills, application of materials, followed by self-verbalisation skills and then to self-regulation (Gow & Ward, 1985). Wertsch and Stone (1979) coined the phrase proleptic instruction to describe the verbalisation from teacher to student, which enabled a disabled child to control their self-regulation. The strategy enabled a student to self-manage real life skills in a domestic setting when there was no instructors present (Hughes, 1997).

Self-generated language or inner speech enabled the student to regulate their action. Vygotsky used inner speech in the third stage of his theory of verbal self-regulation, defined as thinking in 'pure meanings' (Vygotsky, 1962, p. 145). At the time of thinking in *pure meaning* speech was identified as going underground. Going

underground in that it was expressed covertly rather than overtly yet still directed an individual's behaviour. Vygotsky recognised that higher thinking and inner dialogues occurred for children through their self-talk. It was a form of self-management. The self-management of instructional cues should precede the occurrence of the behaviour (Mechling et al., 2008). Self-instructional training has been used in cognitive behaviour modification by Meichenbaum (1974) as a learning tool that compensated for the poor cognitive performance of people due to their old age. The format of which was derived from the notion of language as instruction championed by Vygotsky and Luria both Russian psychologists.

Unfortunately to-date people with disabilities and particularly those with Down's syndrome have been discouraged to talk to themselves (McGuire, Chicoine & Greenbaum, 1997). It is easy to mistake self-talk for psychosis. It is also difficult for a parent or carer to judge the thought processes of another with or without ID. Personally and professionally I would have discouraged adults with ID in my care to talk to themselves and encouraged them rather to talk to their peers. It is something that I would have done almost subconsciously.

Self-talk was a strategy of self- instruction concerned with a person self-articulating what they were about to do, then doing it (Hughes, 1997). Self-instruction was recognised as a positive aspect of training for people with ID as it supported task engagement. There were positive benefits for students with ID in the utilization of self-monitoring, self-evaluation and self-reinforcement which are self-regulation strategies in their education (Mithaug, Mithaug, Agran, Martin & Wehmeyer, 2007). The student has responsibility for their own learning as it moves from the instructor to

student through self-talk (Wehmeyer et al., 1998). Numerous expressions are used by researchers in literature to describe the self-articulation by the student of what they are doing while completing an action as a personal learning strategy. Self-talk during skills development reflects an attainable level of SD for people with ID. Gow and Ward (1985) used the term verbal self-instruction to define a means of self-instruction for them.

Mechling, Gast & Fields (2008) describe self-talk and self-instruction as self-generated mediators whereby students verbally direct their own actions. Both are cognitive self- instructional training procedures and are practised through cognitive modelling (Rath, 1998). Self-talk was described as inner speech in research literature applied with the purpose of influencing oneself. It was a self-management strategy used to manage current skills and build new ones. It supported more independent action and increased student's SD skills, (Wehmeyer et al., 1998). The possibility of individuals acquiring and mastery of new multiple and complex tasks was dependent on the abundance of support strategies such as task related instruction cues available (Mechling & Ortega-Hurndon, 2007).

During the completion of this review it became apparent that there was a limited quantity of research literature related to self-instruction for people with ID. However within sports science literature there was an abundance of credible research that focussed on the self- development of new skills for athletes using self-talk in the form of verbal cues (Landin, 1994). The self-development of each athlete's new skills was often achieved through complimentary video analysis of their performance. There was a resonance and universality in the similarities between what we were trying to

achieve in this project with what had been carried out successfully in sports research. Significantly in relation to verbal cues, self-talk regime was a form of verbal-cuing carried out by sports students.Verbal cues were simple concise phrases articulated by the person during motion, self-articulated during action to encourage focus, concentration and reinforced the critical dynamics of task information to oneself (Landin, 1994). Visual prompting and self-verbalisation were frequently employed by coaches to enhance athletic performance (McCullagh, Stiehl & Weiss, 1990).

Verbal cues have been taught to help students engage with critical aspects of their skills development during action to improve performance (Chapman, 1999). Verbal cuing formed the theoretical bases for attention and informational processing that influenced learning and performance (Landin, 1994). Verbal cues described or prompted elements within a movement pattern which resulted in the acquisition of more technically accurate skills (McCullagh et al., 1990).

The need for students to self-verbalise (verbal cue) themselves while carrying out a task increased their level of involvement in the task and made it more personal and thus more critical in the learning situation (Singer, 1978). Explicit step-by-step instruction and use of simple language provided task engagement and assisted in fine motor skills development (Chapman, 2003). Literature identified that the memorisation of task cues was difficult for students prior to action (Lancioni et al., 1999). Though the creation by students of self-generated verbal cues would give them more control of their learning and may translate to the tutor their level of understanding regarding skills acquisition at that particular time.

Technology

The following will reflect empirical evidence for the efficacy of new technological applications in the education of people with moderate ID. The review identified new technology as a valid, positive and effective intermediary in the education of people which could support and encourage their skills development by self-instructional means. It was acknowledged to intersect traditional boundaries between school and home and enabled learning for adults who were goal orientated, as instruction was situated in their location of choice (Auer, Edwards & Zutin, 2011).

The application of visual supports and digital imagery has proved to be successful in the quest to help young people with moderate ID live more independently (Fiscus, Schuster, Morse & Collins, 2002). Learning based on the creation of visual scaffolding through pictures and illustrations in conjunction with written guidance was also effective for young adults who were motivated to learn for practical reasons (Bowman & Plourde, 2012). Moore & Taylor (2000) identified the positive educational benefit of video instruction for increased motivation and engagement of the student.

Mechling (2005) determined that video reproduced numerous stimulus and response variations in many settings that closely resembled a natural personalised environment. Video captured multiple images as they happened; it was cheap to use, enabled recording of social activities in real time, with opportunities for time out, play back, edit and re-evaluation (Mechling, 2005). While the continual technological advancement in video made the medium more affordable, obtainable and easier to use (Taber-Doughty, Patton & Brennan, 2008). Though it has been under used given its

versatility, permanency allowed data to be shared with colleagues and peers in different ways to reflect social action and interaction including alone or together and helped to provide distinctive support to observation, method and theory (Heath et al., 2011).

Significance of Audio Visual Learning

Tutorials delivered by direct instruction through hand-held electronic devices have proved to be successful for students with ID who have encountered problems in the acquisition and maintenance of life skills (National Centre for Special Education Research, 2010). For successful direct instruction and to make the process feasible students must copy behaviour attend to the recorded digital disc, have the capability of engaging in the modelled behaviour, retain the model until it can be performed and be motivated to enact the modelled behaviour in another context (Bandura, 1997).

A seminal work in this field was conducted by Haring, Kennedy, Adams & Pitts-Conway (1987) whereby video footage was used to promote generalisation in multiple community settings following skill acquisition in a single environment. Three children with autism took part in the research project. Given that often people with moderate ID and others with autism are put together in research projects related to their skills development it was determined that such a methodology could be useful in this study. Participants observed audio-visual footage of conversations with others as models. Results indicated that the boys had learnt through video modelling, generalised their conversational skills, maintained conversational speech and maintained skills over a 15 month period.

The following study used video to promote skills acquisition for students who displayed rapidity of learning (Collins, Gast, Ault & Wolery, 1991).This was a multiple-probe design which allowed the study of a small sample with limited data collection which established very strong internal validity and experimental control without use of an experimental or control group. It was more advantageous to teach skills development in a small group setting as the teacher's time was used efficiently focused on two or three individuals who also had the opportunity to learn from each other through observation (Collins, Gast, Ault & Wolery, 1991).

The following research models were designed to be used where larger sampling was not possible and were commonly used to combine technology and behavioural approaches to improve outcomes for individuals with ID. Baseline data was established before an independent variable was introduced to measure level of criterion. The approach was clinical and scientific.

Video-Modelling

Video-modelling was an application of video technology which has been successfully employed to enable students to build their life skills. The application involved performance of a skill by a model which the viewer (student) was then required to imitate or perform at a later date (Mechling, 2005). A variety of models have been used including peers, an adult of a similar age, person with a disability and or a child.

Mechling, Gast, & Gustafson (2009) employed VM to teach fire extinguishing of cooking related fires for adult students with moderate ID. The study evaluated the

effectiveness of a video based programme using a multiple-probe design for three students in the kitchen and the barbeque area of an apartment specifically rented for delivering life-skills training. Task analysis was used to train participants and sessions took place two to three times a week until they were competent.

There were seventeen training sessions with participants in total. There were two females and one male taking part and they were selected to participate based on their individualised educational planned objectives to learn independent living skills. Candidates were screened prior to commencement of the study for defined pre-requisite skills which are visual, auditory and motor skills. A portable DVD player was used to display video data to participants and an adult model or intermittently an adult's hand was used as the model. The visual data was supplemented by verbal instruction from the person recording the data on the video recorder. The research findings demonstrated that VM was an effective means of teaching skills to students with moderate ID as their levels of performance were maintained up to fifty-two days later (Mechling et al., 2009). The researchers proposed the merit of teaching difficult to stimulate skills to students using VM.

Video Self-modelling

Video self- modelling is a method of instruction that uses a video recording of a student performing a targeted behaviour to be viewed by them for their skills development. The student serves as the key actor in the video. The recorded data is edited by the instructor to enable the model to display task performance at a more advanced level than they typically display prior to display viewing (Mechling, 2005).

Bellini and Akullian (2007) carried out a meta-analysis of studies using VM and VSM for children and adults with Autism Spectrum Disorders (ASD). There were 23 single subject design studies in the meta-analysis. Intervention, maintenance and generalisation effects were measured by computing the percentage of non-overlapping data points therein (Bellini et al., 2007). The authors' results indicated that VM and VSM provided criteria for evidence based practice to teach functional skills which were transferrable and maintained over time to children and adolescents. Results indicated that skills acquisition was successful across a broad range of ages and locations. The benefit of VSM was that it offered students the potential to engage in self-directed learning and opened the door for their self-critique and peer review. It provided students with self-efficacy, intrigue and enjoyment of seeing themselves on video (Mechling, 2005).

Video Prompting

Video prompting was described as interactive video instruction that evoked an immediate physical response from the student after viewing a portion of a video segment (Mechling, 2007). The usual response in the context of culinary arts education was for a segment of video to be shown to a student, then the video was stopped and the student replicated, imitated or copied the modelled behaviour. After which the video was then either rewound and played again, or played on by the student or tutor dependent of the level of response.

Graves, Collins, Schuster & Kleinert (2005) used a multi-probe design to evaluate the effectiveness of video-prompting to teach cooking skills to students with moderate disabilities. The authors recommended that video instruction could possibly be

replicated using video across skills and in multiple settings. They noted that the procedure was motivating and participants enjoyed participation and that video use by individuals may save time spent by the teacher instructing (Graves et al., 2005).

Bozkurt and Gursel (2005) in Turkey used constant time delay to teach snack and drink preparation skills to teenagers with ID. A multiple-probe design was used with generalisation across settings and materials. The prompting procedure varied between presentation of stimulus and the response prompted. The fixed prompt delay varied in time between four to five seconds. The research reflected the effectiveness of teaching secondary students with ID to develop skills necessary to prepare drinks and snack food items. The three student participants who were aged between 14 and 17 successfully made a hot drink, sandwiches and served them.

Task analysis was also employed by the researchers who trained participants after each skill was analysed and recorded. Inter-reliability data was gathered and determined that participants were successful in probe sessions for skills of food preparation and drink making (Bozkurt & Gursel, 2005). Findings proposed that future studies should investigate the effectiveness of instruction sessions where participants are given ample time to complete tasks compared with findings for constant time delay instruction (Bozkurt & Gursel, 2005).

Demchak (1989) in North America used graduated guidance which was another prompting strategy to instruct chained skills. The tutor delivered prompts until the student achieved target behaviour. The skill required the instructor to make moment to moment decisions to consider when to deliver prompts and when to fade. Failure to

reduce prompts resulted in students who were prompt dependant. Demchak assisted adult students with ID to develop their leisure skills successfully. Many of these skills students did not learn socially with peers and they required specific SI to achieve competency.

Mechling, Gast and Fields (2008) evaluated the use of a portable DVD player and a system of least prompts to self-prompt cooking task completion for adults with moderate ID. Task analysis was used for design of intervention. Video prompting required the student to immediately perform a physical response after viewing a video segment. A rechargeable portable DVD player was used to conduct history training for operation there. Each task was defined using task analysis and a model executed the tasks in sequence including verbal cues which were video recorded onto disc for playback by students. Results indicated that self- prompting was an effective means of teaching cooking tasks, students enjoyed the medium and skills were maintained. Results supported the continuation of instruction using cues through audio and video stimuli presented through a portable DVD player.

Mechling, Gast and Fields (2008) also concur with research findings that for skills to be functional students must use the prompting system repeatedly across a variety of settings. Special education should present new innovative strategies to increase opportunities for people across a range of settings. To be successful students need frequent practise and feedback about how they are doing. It was determined by researchers that prompting and prompt fading procedures may be effective for one skill and not so for others (Mechling et al.. 2008). For example prompting systems using traditional pictorial formats operated by another may not be as effective as auditory prompting systems which were self- operated by the students themselves.

Payne, Cannella- Malone, Tullis & Sabienly (2012) evaluated the effectiveness of video prompts presented on an ipad Touch on the acquisition of daily living skills, to teach two students with moderate to severe intellectual and developmental disabilities. Video prompts were used to teach the students how to make popcorn in a microwave. A multiple-probe across participants design was used to evaluate the effects of video prompting and the acquisition of self-directed video prompting. Both students learnt to make microwaveable popcorn. One student learnt to self-operate an I-Pad Touch and met the criteria to move onto the next phase of the study which was to make noodle soup before its conclusion.

Self-generated Verbal Cues as a System of Self-prompting

As previously outlined the practice of visual and self-prompting were not specific to special educational needs research and were successfully employed by athletes and their coaches in the pursuit of enhanced motor skills performance (McCullagh et al., 1990). Verbal cues were also used in conjunction with VSM to enhance athletic performance in sports science (Rowland, 2004). Rowland (2004) used qualitative analysis to test VM as a means of training two groups of players a tennis skill with and without verbal cues. The group who received verbal cues in conjunction with VM were better able to articulate concepts such as balance, posture and contact point.

The educational domains of special needs and sports science intersect and support the view that motor skills performance was enhanced for actors who self-modelled and who had the opportunity at a later date to review the record of their performance. Review and critical analysis by people of their performance informed them of their

capabilities, prepared them for improved future performance and helped build their confidence. Rowland (2004) determined conclusive findings in athletic performance that support the view that self-confidence of athletes and their levels of performance are related.

Mechling (2005) conducted an empirical literature review of the effect of instructor-created video programs to teach students with disabilities. The researcher focused on the use of video recording which included personalised video to teach individuals from 1999 to 2003. Twenty four papers were identified that encompassed the research criteria. The review identified the positive aspects of video technology to teach a range of skills. Mechling (2005) proposed that in future research there is a need to determine if verbalisation plays a role in the acquisition of skills for students with disabilities?

Smith, Ayres, Mechling & Smith (2013) conducted a comparison on the effects of VM with narration vs. VM, on the functional skill acquisition of adolescents with autism. Narration in the context of the research meant a model who articulated verbal cues while performing components of a task recorded on video. The team used an adapted alternating treatment design to compare the effectiveness and efficiency of the two approaches. The results demonstrated that for two of the participants narration was more effective and for the remainder that it was not a critical component of VM but they demonstrated a preference for same above VM. The project was conducted with four students and was similar to a project conducted by Mechling & Collins (2012). The authors used the same number of students as in the above study to determine the effects of verbal cuing on the functional skills acquisition of young adults with a moderate ID (Mechling & Collins, 2012). The verbal cues were created

and put into the video sequence by the person operating the camera in that instance. Video models were made using an adult as the model. The research determined that the intervention with verbal cuing was effective for three of the students.

While the above empirical literature was focussed on the positive use of AT as a learning tool in the acquisition of life skills for people with disabilities, it did not address the needs of people with moderate ID in the 21st century (Redecker, Leis, Leendertse, Punie, Gijsbers, Kirschner, Stoyanov & Hoogveld, 2011). Now every person is entitled to the right to self- advocacy to enable their greater SD and independence (Wehmeyer & Schwartz, 1997).

The practical benefit of education is reflected in the findings of a study carried out in Trinity College by six co-researchers under the guidance of Dr John Kubiak. Together they interviewed 18 third level Trinity students with ID who participated in a contemporary living certificate about their experience of learning. The researchers aimed to determine how the students experienced learning at college. Firstly the six co-researchers took part in research training and then a phenomenographic approach was used to determine the kind of variation that exists in ways of learning for students with ID at third level. The investigation helped to interpret the views of adults with ID and recorded their experiences in adult education at a main stream university in Ireland. Significantly completion of the third level training programme generated positive benefits to their life and career options.

Research with Adult Learners

The model below reflects the varying qualitative ways in which mature adults with ID experience learning at third level. Data was gleaned from a cohort of students with ID who attended Trinity College, Dublin. For these students their learning involved: the supportive environment and learning, learning as collective meaning making, self-regulation of learning and learning as cognitive.

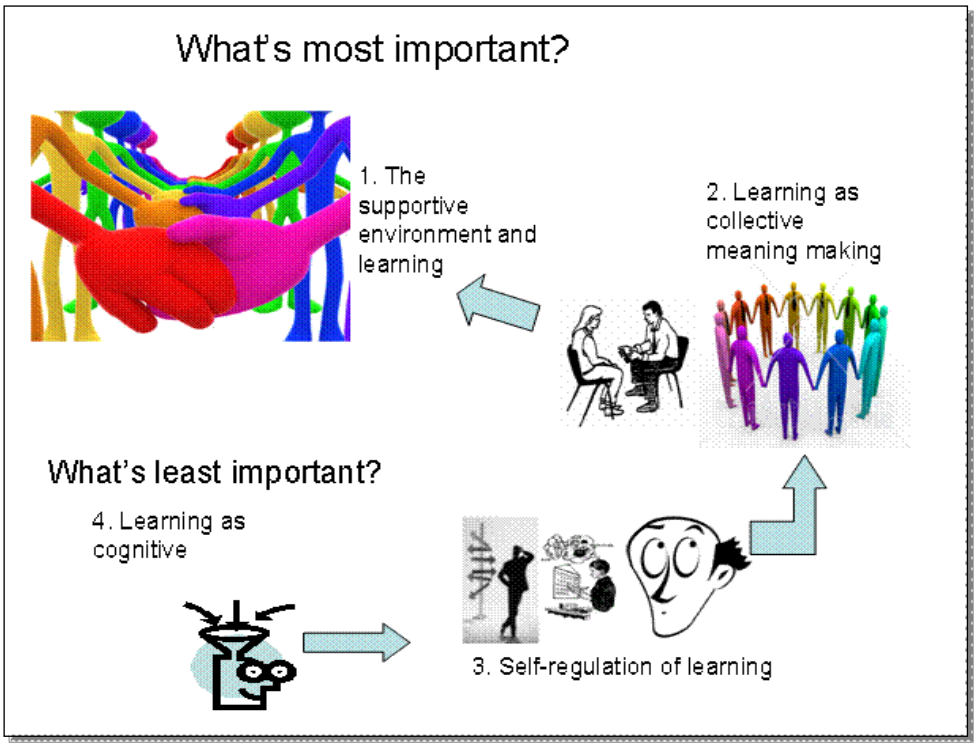

Figure 2.4 Ways of Experiencing Learning (Kubiak, Fortune, Shields, Power, Murphy, Baird & Lacey, 2013).

The Supportive Learning Environment (Kubiak, 2013)

Of primary significance was the supportive learning environment which was seen as a safe place for the development of students' personal meanings (Kubiak, 2013). Bowman and Plourde (2012) also recognised that all individuals learn best in the same environment as everyone else and integrated settings provide for a more challenging real, authentic learning experience. The supported learning environment was encouraged at Trinity College, where participants had access to integrated

lectures with their mainstream colleagues (Kubiak, 2013). Yet simple physical placement was not enough to ensure learning occurs, the challenge was to situate knowledge in the living context (Bruner, 1990). The programme developed an individualised approach to education which gave students options to participate in classes of their choice and empowered them to take responsibility for their learning. The learning was challenging but rewarding as it was applicable in a real life scenario (Brown et al., 1979).

Learning as Collective Meaning Making

Learning as collective meaning making facilitated an open forum which supported participants to learn socially through discussions, peer support and mentoring. Buber (1937) believed that people are at their zenith when they act in a relationship with one another and it is where we as humans find meaningfulness (Buber, 1937). Meaningfulness is located in the synergy which evolved from their COP guided by teachers through mutual support. Mutual support was generated by teachers as they accepted the individuality of each student and therefore interacted with each of them in a dynamic flexible way according to their needs (Hooks, 1994). A collective learning community that is supportive and respectful of each member and which encouraged the promotion of their individual creativity was promoted by mutual shared personal practice (Wenger, 1998). Value was not only embedded in the positive transfer of knowledge but also in the development of collegiality. The interaction of participants towards a common goal is nurtured through a culture of supported learning by teachers and peers.

Self-regulation of Learning

Self-regulation of learning is dependent on power, responsibility and trust given to students to exercise control over their learning environment. I believe that the process is universally self-empowering for all students, but especially for those people with ID who are more likely to have experienced less trust and greater control over their early education.Gilbert (2003) identifies and makes one aware of the pervasive nature of the power dynamic in care for people in disability services.The transfer of power to students ultimately fuels their andragogy. The possession of power in the hands of the student in turn increases their independence and their ability to self- manage their behaviour and are significant factors for people with disabilities (Mechling, 2007). Mastery can lead to greater success and higher functioning in life, as individuals self - manage their personal progression (Cooper, Heron & Heward, 2007). Lockert (2001) acknowledges that adults with ID may learn literacy slower than others learners. Learning can be enhanced by prompting, modelling, scaffolding, task analysis and positive reinforcement (Bowman & Plourde, 2012).

Learning as Cognitive

The research by Kubiak (2013) acknowledged the importance of creating space for a positive teacher-student relationship. The environment in turn allowed students to experience the positive effects of education as a means of exercising their greater SD. Kubiak (2013) identified a core space that was required by students to facilitate their learning and this space is undoubtedly a contemporary space for individuals who have not experienced similar freedom on their educational journey so far. Kubiak (2013) cautions researchers not to assume to know how people with disabilities learn and that the question can only be answered inclusively. The 18 students enrolled in the

contemporary living course demonstrated the power and complexity of an inclusive research paradigm to discover significant new knowledge through their findings. Findings also detail how an inclusive exemplar learning environment could potentially be created for new investigations using a facilitative teaching practice and emotional competency (Kubiak, 2013).

Summary of the Literature Review

Over the course of the review the literature recognises the importance of daily life skills acquisition for adults with ID. The most important life skills are identified as being those perceived to be important by the participants themselves. Their desire to succeed in acquiring new skills also provides additional intrinsic motivation for them to gain mastery. Culinary arts skills provide a litmus test for people with ID to gauge their true level of community participation. Rather than physical placement these skills make their presence real.

Primarily behaviourism supports the application of SI in the development of basic skills for people with moderate ID. Task analysis helps to define individual skills for their tuition in a specific controlled and recorded chain. Again in this domain operant conditioning is defined as a universal approach to education that includes reinforcement, prompting and modelling techniques familiar to all educational domains. All of these stimuli are incorporated.

Social Learning Theory like behaviourism supports the strength of observation again common to all approaches, but acknowledges the powerful influence on learning for students who are committed to the task at hand, want to cook at home, have the

ability to retain what is been taught and are capable of reproducing tuition at a later date.

Constructivism in opposition to the above standardised generic models of learning merits the individualised approach to education that builds upon the unique inherent previous knowledge and experience of students who are intrinsically motivated to give voice to their inner spirit. The approach reflects hands on approach to their education in keeping with PCP, individualisation, choice, SD and experiential learning. Given that participants are free to self- advocate and identify their own skill needs.

Positive catalysts to learning are identified in literature and include a historical apprenticeship approach, immersion in a real life training environment, participation in a COP and self-generated learning. The educational strategies which work best for students to achieve self-actualisation are self-directed. Self-directed learning by the student makes the experience exciting (Hooks, 1995).

The literature identifies the tremendous potential of AT mechanisms in the delivery of innovative training to people with ID world-wide. Currently empirical evidence would suggest that their application is best suited to adults as part of an ABA intervention. ABA does not sit well with the development of a desired participatory, inclusive learning environment. As ABA is an empirically effective behavioural intervention most commonly applied for people with Autism. ABA requires long intense application of time and resources by the tutor to the student (Alberto &Troutman, 2009). The intervention is commonly applied to correct or repair the

behaviour or performance of the student (Cooper et al., 2007). Decisions regarding the necessity of training interventions are made by the teacher in consultation with parents or guardians. It is not a consultative paradigm. ABA is an interface between teacher and student where power of deprivation or aversion is exercised by the tutor or shadow teacher to garner the correct response (Alberto & Troutman, 2007). Reward provided by the tutor is extrinsic. ABA may lead to a path of inclusion but as an intervention itself it does not reflect universal inclusive practice. It is conceived to be a clinical educational format of stimulus and response which cannot take into account the feelings of students.

There is also continual reference in research to adults with moderate ID using VM to the possibilities of employment for those learners who had learnt cooking skills (Fiscus et al., 2002). There was no evidence of this provided and the claim was not realistic (Mechling, 2008). Professional cooks have to complete professional examinations and receive hygiene and food safety competency certification. Why would adults with moderate ID not require the same level of training?

Another common feature of this domain was that no reference was ever made to the sensory or aesthetic qualities of the food outputs. The studies give the impression that cooking skills are a consortium of generic tasks produced by students to the same criterion every time and that food outputs also conform to this rigid and unrealistic view (Mechling, Gast & Fields, 2008; Graves, Collins, Schuster & Kleinhert, 2005). While one may deliver training systematically, the complexity associated with the application of heat to a substrate results in numerous nuances that can be identified and compared.

For example two sponge cakes cooked using the same measurement of ingredients, cooked for the same time, in the same oven by two individuals will not look, taste or feel the same. As the method employed by them to incorporate the flour into the cake batter will not be identical but reflect the aptitude of their individual ability. Therefore any food that is cooked produces variance which is not identified in the citied articles. This is true whether cooked on a stove, grill or microwave oven.

The question is therefore what is cookery, a skill, art, or science. The answer is that it can be all three dependent on who is cooking, the context and for what purpose (Davidson, 2006). The answer is not present in the cited texts but students can be trained to produce aesthetically pleasing tasty food or food to sustain life. They are not the same (Davidson, 2006).

Behaviour modifications as a learning tool is restrictive to the students' personal development and does not empower them to self-regulate learning nor is it an appropriate medium for adults. There is no reference made by researchers as to how they sought consent of participants. Was it voluntary? Their teaching style is best suited to people with autism that are inhibited from learning by close social contact with others or through excessive stimuli present in a mainstream classroom (Mechling, Gast & Fields, 2008; Graves, Collins, Schuster & Kleinhert, 2005).

In contrast to the above restrictive regime Kubiak (2013) portrays an aspirational classroom. This aspirational classroom is a place of mutual respect conceived by students and tutors. This co-operation follows a path to enlightenment where learning

is made real in a collaborative synergy. Therefore the challenge is to marry an approach which incorporates the merits of SI, but from which new skills can be built upon by scaffolding.

Implications of literature for design of the current study

The creation of a new way of teaching culinary arts stems from the literature and seeks to build on approaches to learning, firstly, involving the students gradually taking responsibility for their own learning both individually and collectively (Mechling et al., 2009; Pea, 2004). There is a practical need for new innovative methods of teaching based on evidence based research for people with ID (Duggan & Byrne, 2013). It has been revealed to-date that Irish disability policy promotes equality and recognises the importance of allowing people with ID to lead full and independent lives (GoI, 2006). Access for adults with ID to independence life skills training through PCP is their right and is an essential component of real community living (Brewster & Ramcharan, 2005). Individualised training at home for each person requires the creation of a safe environment where they are allowed to be self-determined (Mechling, Gast & Gustafson, 2009). Promotion of self- determination skills by building on the student's own initial eagerness and interest in culinary arts promotes their self-efficacy and confidence. The enhancement of each student's self-confidence during primary training encourages the transfer of their culinary skills' to home (Lave & Wenger, 1991; Wehmeyer, 1992; Pintrich & De Grout, 1990).

The literature shows evidence that the opportunity and ability to cook for oneself at home brings significant social, cultural and physical benefits to our QOL (Wood, 1995 ; Struhkamp, 2005 ; Kolb, 1984). The power and motivation innate in humans can be self-employed by them through strategies such as self-generated auditory

prompting in their skills development (Wehmeyer, 1996). Models of each participant cooking can be digitally recorded and applied to enable their skills and self-competence (Mechling, 2008). In this educational process students nurture and articulate the intrinsic motivational forces that determine why culinary arts are interesting to them and make real these inherent desires (Pintrich & De Groot, 1990). If students can self-articulate instruction to themselves then they will be able to take personal control and responsibility for their own learning: taking more control of ones learning encourages greater self-determination (NCSE, 2013).

In order to accomplish the above principles the present intervention draws on the following key strategies from the literature. The practicalities of culinary arts determine that SI is a behavioural means of developing basic motor skills quickly. Systematic instruction applied using task analysis portrays a feasible means of primary skills training. The initial place of instruction is revealed through Immersion in a real restaurant setting generating the environmental stimulus to encourage enhanced skills development for students (Swain & Johnson, 1997). The application of task analysis to build the student's skill repertoire methodically in a COP will support vicarious experience and give students the opportunity to build their confidence collectively (Pea, 2004). Collaboration with participants in the research design and application is necessary, ethical and the most effective means of facilitating adult education (Gold, 1980). Collaboration diminishes anxiety and procrastination which are barriers to education (Eyre, 1993). Collegiality generates rapport, recognition and status which are critical motivating factors for participant learning (Eyre, 1993).

This project design applies evidence taken from educational theory specifically the value of doing as reflected by authors such as Dewey in the practicalities of hands on training which is complimented by the latest ID research. Real life training in a COP generate multiple experiences which compliment tactile training by providing students with multiple opportunities to learn from each other (Bandura, 1977). Or applied using AT students can learn from their own instruction (Heath et al., 2011).

Training will take into account the positive values of social- cognitive, social-constructivism, experiential and motivational theories which will be applied in a supportive learning environment. The present study will progress through continual collaboration with students at their individualised pace using empirical evidence gleaned from the literature.

The application of antecedent strategies including instruction cues to single step tasks with visual images of recipes cards will be employed with self-management tools including self- modelling, self-prompting and self-talk. Technology facilitates the application of these strategies to students in their own homes, at their chosen place and time. They are self- empowerment resources. Technology also supports empirical evidence that these applications are proven to be worthwhile successful applications for people with moderate ID.

Technology applied by the student through an individualised copy of their performance cooking on DVD represents a personalised learning resource. It facilitates student learning in an effective, age-appropriate andralogical fashion. The resource allows the student to learn from themselves not others. This study requires the generation of debate among students and creates spaces where they can

individually and collectively engage in reflective practice towards self- efficacy, SD and higher learning. The creation of a broad, confident learning COP is only possible through the evolution of a community-based culture that nurtures individuality and supports personal development. The voice of each participant in this instance will control the direction and pace of their learning.

Voice is heard through description and verbal generation which echoes the primary desires of the participants at commencement of this project. They defined their desires wants and needs not merely in a cognitive sense but also in the nature of the ingredients used and recipes conceived. Engaging with participants in a collaborative manner demonstrates the power of their own voice in shaping the intervention path. Engaging, educating and researching with students with ID in a participatory and pluralist fashion is necessary to achieve a mutually rewarding and fulfilling research project (Kubiak, 2013).

This project seeks to capture the inner voice of participants at commencement so that it resonates within their minds through their lives and empowers them to self-direct, self-focus, self-critique and self-control their learning and living. Technology is recognised as a powerful force in the empowerment of students to self-educate through the application of self-modelling and self-prompting. It bridges the gap between what was theoretically conceivable in special education historically to what is now practically possible for tutors working with people with ID.

Inner voice has been made real and articulated overtly in sports science training research by students in the practise of their skills development. The practise of

articulation of inner voice through overt auditory prompting in conjunction with VSM leads to increased performance and growth in athletes' self-esteem and self-confidence. Why should this method not also be feasible or possible to adapt for the training of people with ID in culinary skills?

An eclectic intervention that encompasses all the positive qualities of each theoretical perspective into one intervention may facilitate learning for students that is self-determined and worthwhile to them.

The purpose of this research is to build the culinary arts skills of students to enable them to cook in their own home. The research is concerned with interpreting the emic perspectives of participants and responding to their individual needs to build their skills and knowledge (Hatch, 2002). The approach is inductive and participatory.

This review aims to determine a feasible path for the training of adults with ID by encompassing literature that recognises and supports their individual needs' relating to the following pertinent themes: Participation in a group activity with a shared goal, achievement of a level of independence in one's own home, participation in the person-centred process and full inclusion in goal setting, participation in decision making regarding cooking skills, enhancement of life skills through gastronomy, promotion of choice over one's own diet, empowerment, access, participation in one's own learning/ self-instruction, opportunities for engagement in community activities/community presence and SD training.

To achieve the above aims and successful outcomes for participants there is a need to encompass critical cognitive points as identified in previous research literature. These include a need for training to be carried out in a small group setting enabling the instructor to look after all the persons' learning needs without impacting negatively on their progression (Ledford, Gast, Luscre & Ayres, 2008). Fulfilling these will create a space to generate learning for adults based on the creation of visual scaffolding through pictures and illustrations in conjunction with record writing as their motivation to learn is for practical reasons (Bowman & Plourde, 2012).

The creative space should allow participants to have time to self-reflect on their performance, self-evaluate and self-improve (Mechling, 2005). Self-improvement gives voice to their behaviours that are not overtly displayed (internalised) incorporating into the project self-auditory and descriptive features (Mechling et al., 2009). Self-modelling encourages learning through video based instruction from skills simulation, to self-efficacy fulfilling participant's need for intrigue and enjoyment (Mechling, 2005). Facilitating participants' opportunities for enjoyment as part of their video instruction curricula enhances their motivation (Graves et al., 2005). As outlined by Mechling, Gast & Fields (2008) research trials with people with ID indicate that they like to use a DVD player as a learning tool as it is a home entertainment medium familiar and accessible to them.

Equally critical to the educational value for students of audio visual material is who and how the instructional model is perceived by them. Graves, Collins, Schuster & Kleinert (2005) recommend that future studies which plan to use video prompting should first select appropriate functional skills for instruction, followed by set up of

task analysis of new skills prior to recording. The authors determine that video recording of tasks such as cooking carried out by participants should be represented from a subjective viewpoint, which display how the person sees the work from their point of view. As this view point is seen to be more appropriate for recording tasks which use fine motor skills. A hand held camera with a zoom lens is seen to be the most applicable for tasks which are carried out from different angles (Graves et al., 2005).

Graves, Collins, Schuster & Kleinert (2005) recommend that future studies should attempt to teach across other settings such as community and home. In addition the authors also recognise the potential research has to be used as a video cookbook by participants, thus providing an opportunity for them to self-direct their learning with less teacher involvement to enhance generalisation and maintenance (Graves et al., 2005).

In contemporary research using VM time and the inherent power of participants are acknowledged and deemed to be important stimulus for participants. New findings propose that the transfer to natural cues occurs more readily under video enhanced instruction (Goodson, Sigafoos, O'Reilly, Cannella & Lancioni, 2007). Researchers therefore recommended that future studies should look at a self-prompting system that could be 100% truly self-operated by students. Researchers also indicate that future studies should look at how to teach a self- prompting strategy for complete meal preparation that combines several recipes (Mechling et al., 2008).

Approach

All research literature displays significant limitations in relation to the education of people with ID from emancipatory and gastronomic perspectives. Mechling (2008) and Johnson, Hobson, Garcia & Matthews (2011) do not exercise choice and the actual food cooked is of poor quality and replicates traditional class distinctions and the historical inequality of food consumption in society (Bourdieu, 1984). Specifically in this review cooking for students is focussed on 'Ramen noodles, Mac 'n minutes or peanut butter and jelly sandwiches (Graves et al., 2005). There is no evidence in any of the trials that the students picked the foods they are taught to cook.

This project proposes an intervention that requires students to cook a healthy meal of their choice. Students therefore need to build and develop mastery of much more comprehensive culinary skills than in any of the above research trials. The aim of the approach is to encourage blended learning for participants and develop an experiential learning medium which facilitates transformational learning through activity based instruction (Kolb, 1984). There is a need for new innovative strategies and creative use of technology to facilitate increased opportunities across a range of educational, living, work and recreational settings (Mechling et al., 2008). This study aims to build on the learnt skills of students using SI. To facilitate the transfer, generalisation and maintenance of skills by participants using self- modelling, self-instruction and positive self-review.

Having reviewed the most relevant learning theories, no one approach reflects the correct theory that is finally developed in this instant. The application of assistive technology in the education of adults with ID is a core component of this project. The

generation of a blended learning environment encompassing new technology cannot be pinned down to any single one of the above theories. However all of the literature contributes to the final research theoretical framework. This framework is the conceptualisation of all theory in the literature is a contemporary eclectic approach defined by new policy and practise in adult education for people with ID. The collaborative approach, research design and implementation happen at the behest of the participants and is dependent on them. This study is specifically designed to incorporate all the positive elements most applicable to participants to enable individualisation of training and mastery.

The theoretical framework

Qualitative researchers use theory to provide a broad explanation for behaviour and attitudes which may be complete with variables, constructs and hypotheses (Creswell, 2009). Theory is a comprehensive set of statements or propositions that describe different aspects of some phenomenon (Silverman, 2001).Themes are identified in the literature to be tested in the project. This theoretical lens provides an overall orientation with regard to questions such as class, policy and race. Qualitative research has gone through a transformation to broaden its scope of inquiry and determine where the researcher is positioned within the inquiry without further marginalising participants (Creswell, 2009). Critical theory therefore seeks to empower participants and move them from their historic marginalised position where they have been placed by society (Fay, 1987). The exercise of making sense is an inductive process of sense-making or building from the data to broad themes. In this instance case study is applied as a detailed examination of single subjects and the

systematic detailed gathering of information about them, their life history, training in a social setting in a group context to effectively understand interpret how they learn and build on their knowledge.

The simple understanding of this logic is displayed as:

Ideas→Literature Review→Design→Data Collection→Analysis→Dissemination (Berg, 2009).

In this case the logic is described as theory before theory orientation. This approach allows for the interpretation of existing learning theory, the identification of problems associated with each one, the adoption of the best aspects or best bits of each one to develop theoretical innovation or the refinement of existing theories into an eclectic contemporary approach to adult learning.

Idea→Theory→Design→ Data Collection→Analysis→Findings (Berg, 2009).

The main theory defined in the literature review and applied in the methodology is constructivist. It is proposed as a belief system in opposition to the scientific norms of behavioural theory or social learning theory but taking the positive aspects of systematic instruction and vicarious experience from each of the latter respectively which complements the new methodology. Linking research to aspects of the extant literature is a requirement of any good study (Berg, 2009).Qualitative research as a set of interpretative activities privileges no single methodological practice over another, no theory or paradigm is distinctively its own it does not belong to any single one (Berg, 2009). The new method represents a paradigm or replacement for the old

scientific ways which make action possible without the necessity of long existential or epistemological considerations (Guba & Lincoln, 1989). The action in research allows for an investigative process to enact local action oriented approaches and apply small scale theorising to specific problems in specific situations (Stringer, 2007).

It is through collective participation in a community of practice which is also synonymous with action research that students are encouraged to develop their skills by active learning. They are encouraged collectively and individually to build skills that will enhance their interpersonal life not just their technical ability. They have identified these issues as being important to them to learn. The current problem is that culinary training to learn to cook at home is not available. The theatre of learning identified as a real restaurant is significant in that the place where the learning occurs is not contrived but associated with authenticity. Experiential learning is allowed to occur and flourish enhanced by the strengthened relationship between participants and tutor. Participants are provided with opportunities to demonstrate their skills, knowledge and experience to others and articulate their thoughts. Technology presents an opportunity to overcome the constraints of learning for people with moderate ID and allow them through VM and VSP to self-instruct and teach them.

The theoretical framework comprises six sets of research based conclusions or recommendations drawn from the literature:

Acknowledgement of the changing culture, legal obligations and power dynamic within the sphere of independent living for people with ID

Adoption of self-advocacy, self-determination and person-centred planning as pre-requisites to engaging in a participatory action research design in collaboration with adults with ID

Categorisation and analysis of historical understandings of how we learn as humans and the power motivational triggers which influence and drive our learning
The role of community and place in the development of a research community or COP for adults with ID and their application in conjunction with assistive technology

Continual engagement with participants throughout the research process to bring theory, enlightenment and action together

The role of self-instruction, self-directed learning, self-modelling, self-prompting not only as bridges to learning but also as building blocks in the reinforcement of participants self- empowerment, self-esteem and self-determination skills

Asking research questions based on a central phenomenon or concept of study informs the exploration of the emerging methodology in qualitative research (Creswell, 2009).

- How can people with moderate ID participate safely in a culinary training programme towards their own needs?
- Is it possible to develop skills acquisition, fluency, maintenance and generalisation of culinary arts skills for participants and how can they be enabled to cook for themselves or guests at home?

- How can they be enabled to build upon their eloquence and confidence in a new learning medium to personally drive them towards this goal?
- How can they be encouraged to participate in a community of learning to help them engage in peer review, critic and peer support?

In pursuit of answers to these questions, primarily I gleaned data from the three participants by interview about their food preferences and previous culinary experience. I identified the shared beliefs/wishes of students for their progress in the study. I aimed to reduce participants' anxiety by building their team spirit and creating a shared learning domain. This domain was developed by recognising the inclusive nature of the project, the premise of which had been requested by the participants with their peers, to be carried out in their community homes, not in a segregated setting. This was their choice and reflected their personal SD and self-efficacy. I propose an:

'Investigation in the use of video technology with adults with moderate intellectual disability to teach culinary art skills using self-modelling and overt auditory self-prompting in their own home.'

Conclusion

Given the object of this review is cooking but more importantly education, the author reviewed and critiqued traditional learning theories which are situated in the psychological domain. The aim of the intervention is to encourage auto-didactic learning individualised to the learner but under guidance. Training will take place using guidance which is systematic and which can be withdrawn to enable students to develop their own self-directed learning. Self-directed learning provides learners with an opportunity to experience collegiality, andragogy and a sense of self-control on

their learning journey (Bowman & Plourde, 2012). Their control and participation is encouraged through the delivery of learning which appeals to individuals' cognitive, affective and psychomotor domains. Self-regulation encouraged in real life context facilitates active learning, rather than in a passive format without reference to real life application (Bloom et al., 1956). Contemporary immersion training supports a real personal andragogy or self-directed learning experience (Kinch, 2016). I must also recognise and endorse my need to use tools of facilitation and emotional competencies (Kubiak et al., 2013).

CHAPTER 3

Introduction

This introduction reflects a summary of the conceptual design of this research project which emerged from relationships I built with adults with ID while working with them over the last 16 years. Together we set up and ran cafés and restaurants. This partnership enabled my position as an insider in the research process with the participant group. I effectively interpreted social conventions, language and non-verbal communications of participants, recognising their strengths and building on the positive aspects of their individual talents (Robson, 2002). My insider status in the empirical inquiry was also recognised as being potentially divisive. As the main investigator my position in the research process allowed for possible equivocal evidence or biased views to influence the direction of the findings and conclusions (Yin, 1994). To maintain rigor a number of strategies were adopted including the use of a multi-disciplinary team who acted as critical colleagues in the dissemination of data. The generation of multiple sources of evidence related to the phenomenon being studied and subsequent triangulation improved construct validity (Yin, 1994). Finally the creation by each participant of a physical artefact in the form of a cooked meal exposed a very high standard of evidential quality for analysis. It was unique to them and was tasted and critiqued by their peers. I outline the progression from an idea into a research question.

I constantly wondered if providing skills and services for others over many years was more important and worthwhile for adults with ID than building their own self-care skills. It was obvious to me that the vast majority of adults with whom I worked

never progressed to supported employment. Together we came to the assumption that training geared towards independent living was of more value to them.

To begin I needed to find an evidence based research methodology that would empower, enable and assist students to build culinary skills in a way that built upon their pre-existing capabilities. I attended an educational lecture in Trinity College, Dublin, by Professor Kevin Ayres (2012) which fuelled my interest in the use of VM as an effective means of teaching life skills to people with ID.

I knew from experience that the development of culinary skills for students required SI and significant application of teaching time and resources. VM facilitated the reduction in tutor student contact hours required for training and also reduced considerably the costs of fresh food ingredient provision. The audio-visual medium is a popular leisure activity. All the participants in their initial interview expressed a love of watching television. Training for them through video recording did not require them to have literacy skills. Observational learning was identified as an important means of learning and was particularly relevant to those with literacy deficits. Vicarious experience is primarily how we learn (Bandura, 1977).

Knowledge and Know-how

To be totally reliant on others and live in the absence of knowledge perpetuates dependency and insecurity. I aimed to provide people with ID with the skills and knowledge that they required to cook a hot, wholesome meal in their own home. I wished to reconcile my experience of special educational theory and practice to enable students to find a practical solution to their problem. My goal was to enable

participants to be active instruments of their change. This project carried an action agenda for reform (Creswell, 2009). I strove to generate meaningful community based knowledge that contributed to people's lives (Chevalier & Buckles, 2013). Dialogue, collaboration, self-reflection, self-talk and self-instruction became partners in the process. The struggle to make sense was in effect the beginning of the research process (McNiff & Whitehead, 2011).

Justification of Methodology

As demonstrated in the literature review educational reform policies gathered pace demonstrating the importance of PCP, choice, and self-advocacy for people with ID. To support fully inclusive practice it is necessary to develop a wider range of evidence based instructional tools that meet the requirements of all (Baker & Bovair, 1987). A process of personal change can transform into a process of social change (McNiff & Whitehead, 2011).

Inevitably if one can be supported to satisfy SD goals then one's QOL and self-esteem will be greater. The aim of education is to enable mental, physical and spiritual growth (Dewey, 1938). AR was adopted as a positive transforming research paradigm for many authors who recommended it specifically for people with special needs (O'Hanlon, 2003; Armstrong & Moore 2004). It offers students who have difficulty mastering new information and skills an equal footing as participants in the process (O'Hanlon, 2009).

The prevailing traditional educational philosophy of learning was that it was merely a means of processing information including facts and procedures without any

reference to context (NCSE, 2011). I carried out training in the student's homes because that is where they wanted to cook. Home was the place most relevant to their social life and reinforced the importance of situativity in their education.

Resnick (1987) identified learning taking place in socially shared activities. The conceptual framework for this project reflects the collaborative nature of the research process. In collaboration teachers and students build their knowledge through the implementation of an eclectic mix of learning theories: through endeavour, socially in the community, through activities, peer interaction, reflection and within their learning environment.

My world view is participatory and are my basic set of beliefs that guided action that was advocacy/participatory in nature (Guba, 1990). In the context of participatory research through an emancipatory medium, all those who are implicated in change will participate in planning that change. "A society moving from one epoch to another requires the development of an especially flexible, critical spirit" (Freire, 1970, p. 7). I continually endeavoured to respect the participant's wishes and reflect their views, opinions and voices (Wykes, 2002).

The qualitative theoretical perspective was a critical theory perspective concerned with empowering human beings to transcend the constraints placed on them (Fay, 1987). Over the course of the research working in collaboration with participants we devised a means to overcome the restrictions placed on their culinary education to-date. As the individual narrative of each person taking part in this project was revealed it became clear that this research process was about more than cooking. The

participants generated an agenda for change in their lives and sought real community inclusion in their homes. Issues such as empowerment, equality, social justice and rights were revealed during the investigative process (Cresswell, 2009). The united voice of participants demonstrated their willingness and innate power to create change in their lives. The strength of the critical paradigm lies in its' recognition of the connections between theory, ideology and power relations (Foley, 2004).This domain enabled the research to reflect the views, opinions, voices of participants not traditionally expressed in mainstream academic circles.

Barton's (1999) targeted key questions helped me to reflect on whom the research was really for, what rights had I to undertake it and therefore what were the consequential responsibilities? Wykes (2002) sought to move participants from a sphere of passivity to a position where research was conducted with them in partnership. I acknowledge that everyone can contribute to policy development in education if their contribution is facilitated (Fredickson & Cline, 2007).

Outline

This chapter will demonstrate how participants and I designed, commenced and continually evaluated and implemented the investigation in partnership. Having firstly devised a framework and research protocol I began by obtaining consent from the service provider and St Patrick's College (SPC). Recruitment of participants and allocation of their training base then followed. The candidates were interviewed and a consensual meal plan devised with individualised recipes for their culinary training programme. Cookery lessons were divided into sessions of two hours daily over a two month period in a group setting.

The focus was to build participants' confidence and capabilities in a group setting. Lesson plans and pictorial recipe cards were developed for each class and learning outcomes and objectives determined (Appendix T). Progression was dependent on the participants' individual pace, development and feedback from their key workers' over time. The researcher carried out visits to participants' homes. Participants then received personalised training in their own home. The project commenced once consent had been obtained from the SP and took six months to carry out.

Action research is the term used to describe processes of planning, transformation and evaluation which draw on practitioner enquiry and reflection. The application focus is on reducing inequalities and exclusion in education (Carr & Kemmis, 1986). The action refers to the cyclical nature of collaborative planning, checking the potential of the intervention with an identifiable focus and purpose (Armstrong & Moore, 2004). AR is a democratic process which generates knowledge.

The term AR was first used by Kurt Lewin, in 1945, just after World War Two, as a way of convincing homemakers to eat less meat (Robson, 2002). Thereafter it has proven successful in educational settings and has been used to promote organisational change (Fullan, 1982). Its goals in the context of education to some have been represented as lying primarily within the areas of personal/and or professional development. AR is valued less for its role in the generation of data about curriculum, pedagogy, and more for its value to promote professional skills and the social engineering of attitudes and dispositions (Koshy 2005).

Action research is a highly rigorous research tool that went beyond method to become praxis (McNiff & Whitehead, 2002). It satisfied the social nature of my research to create a social space in which care was given concrete expression (Mc Cormack, 2002). Through collaboration with participants we sought to facilitate education in a dynamic learning environment (Koshy, 2005). I employed the inquiry based on the experiences of participants in their own home (Mc Cormack, 2002).

Action research allowed me to be directly involved in creating and facilitating change (Robson, 2002). Improvement and involvement are central to AR, first the former a practice of some kind, the latter an improvement of that practice and finally an improvement of the situation in which it takes place (Robson, 2002). AR was applied to enable practices which were purposive, value laden and socially orientated (McNiff & Whitehead, 2011). Creativity provided the impetus to release the inherent potential of participants to enable them to exercise more control and greater autonomy in their lives (Dowson, Hersove, Hersove & Collins, 1998).

The advantage to the research process is that I can participate in the intervention. The process is dynamic, allowing for continuous evaluation and modification based on feedback from participants. AR is conceptualised as an intervention that pursues action and knowledge in an integrated fashion through a cyclical and participatory process involving constant spirals of observation, evaluation and reflection. “In AR processes, outcome and application are inextricably linked (O’Leary, 2004, p.139).” Improvement and involvement are central to AR, first the former a practice of some kind, the latter an improvement of that practice and finally an improvement of the situation in which it takes place (Robson, 2002). It is a reference to how people

conduct real life enquiries to ask individually and together how do I improve what I am doing for mutual benefit (McNiff, Lomax &Whitehead, 2003).

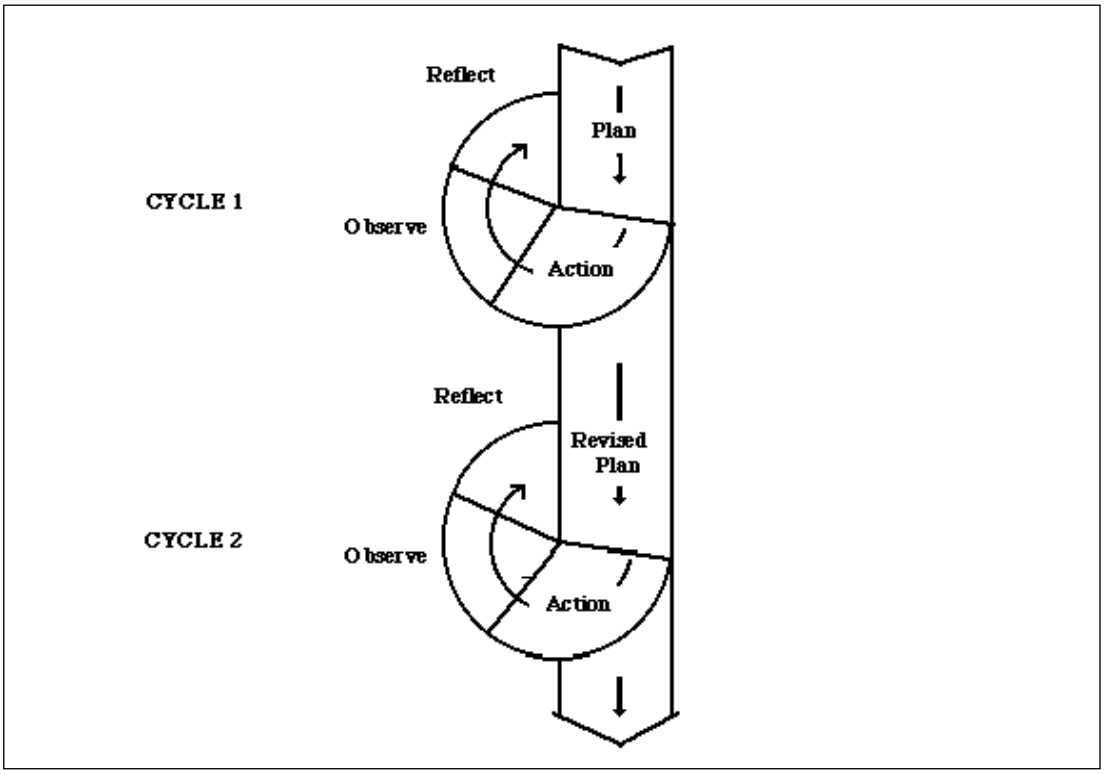

Figure 3.1 Action Research Interacting Spirals from Stringer (2007, p. 19).

How can one reflect the individual personal/ and or professional development of individuals using AR most accurately in a group project? The challenge working with three adult participants in this study was to acknowledge and respect the unique identities while also building upon the meticulously recorded baseline data in an AR methodology. Best practice dictated that the individual idiosyncrasies of participants were continually observed, recorded, reflected and acted upon through this study. Recorded data provided rich evidential artefacts. Case studies are reports obtained while working with individuals in a group that illustrate problems and indicate a means for solving them (Yin, 2004).

Case Study

Case studies are a step to action that begin in a world of action and also contribute to it (Koshy, 2005; Merriam, 1988). Case studies portray person-centeredness, their purpose is to generate in-depth understanding of a specific topic and to generate knowledge, professional practice and civil or community action (Simons, 1980). Cross (1981) clearly demonstrated the unique individuality which adult learners' possess: through the identification of physical, stage of life experiences, cognitive development, degrees of independence and social, cultural and situational characteristics.

The progress of participants is most clearly defined, safely managed and guided using AR and most accurately portrayed through individual case studies. The employment of multiple studies allowed the depiction of rich complex information about real live events (Walker, 1986). The paradox of case study research reflects the unique complexities of individuals with ID who may also have physical disabilities, social or emotional restraints (Simons, 1996). As knowledge moves forward in conceptualising the construct of ID researchers recognise the multi-dimensional nature of the quest and incorporate other significant life activities (Wehmeyer et al., 2008).

For case studies there are five especially important features of research design:

1. The study question
2. It's proposition
3. Its' unit(s) of analysis
4. The logic linking the data to the proposition
5. The criteria for interpreting the findings (Yin, 2004)

The substance of the question reflects the primary who, what, why and how. The question signals the direction of the research strategy. Case study strategy is most appropriate for how and why questions (Yin, 2004). The research question developed in this instance should shed a light on the validity of VM and video prompting as a means of educating people with ID. The proposition directs attention to what should be examined or studied in the context of the research (Yin, 2004). Culinary art is the topic of this study. The next component, unit of analysis relates to defining what the case or problem is (Yin, 2004). Every participant taking part in the project was the individual unit of analysis.

Linking data to propositions and criteria for interpreting the findings are less well developed in case studies (Yin, 2004). Pattern matching was a way of linking the data to propositions between individuals in the case study. Patterns contrasted sufficiently between case studies so that it was possible to make definitive cross comparisons (Yin, 2004).

Case studies provide a lens through which the real life narrative and unique individuality of people with ID can be portrayed in research. To-date while there has not been a lot of literature compiled regarding the application of AR to further the needs of adults (O'Hanlon, 2009). It enables adults to share, lead and co-operate in the construction of their learning. There was valid empirical evidence of the value of applying VM and VSM together as teaching strategies in the education of adults with ID. What if both strategies were applied using a democratic teaching philosophy? Teaching adults with ID through the medium of a contemporary collaborative approach would facilitate the recognition and respect of their unique identities.

This study was based on an eclectic mix of theoretical approaches which together mirror empirical evidence based research for the education of adults with ID as outlined in the literature review. Various strategies espoused in the literature with regard to the efficient training of people with ID were employed including SI, task analysis, VM, VSM and video self-prompting using auditory prompts (Snell, 1983; Storey & Miner, 2011; Mechling, 2008).

In the literature review the use of auditory prompts had previously only been generated by adult tutors as an antecedent to help build participants cooking skills (Smith et al., 2013). Further investigation revealed that outside of special educational parameters auditory overt self-prompting was used to enhance the performance and skills acquisition of athletes. I subsequently therefore incorporated literature from sports science research into my final review (Rowland, 2004). The verbal cue which athletes self-generated describing what they were doing verbally to themselves as they did it acted as an internal control and motivator. I applied the same methodology.This project encouraged the development of each person's oracy and motor skills just beyond the point of their previous zone of ability "The zone of proximal development is 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, p. 86). VSM and self-talk are an easily self-operated record of skills in action. Central to the eclectic educational strategy implemented was the constructivism social origin view of knowledge with a focus on language. This project recognised the strength of constructivism as a philosophical view of knowledge and sought to encourage participants to speak out about ideas,

views and meaning of their experiences while cooking. Vocalisation of participants during the execution of their tasks identified their level of comprehension and supported group learning (Dunn, 2003). It presented clear evidence of their level of understanding and comprehension in training. Recognising "… the most significant moment in the course of intellectual development, which gives birth to the purely human forms of practical and abstract intelligence, occurs when speech and practical activity, two previously completely independent lines of development, converge" (Vygotsky, 1978, p 24). Vygotsky (1978) captured the essence of personal development through the zone of proximal development where one interacts with the environment and slowly develops an understanding of the processes at play to make it our own. When we speak we say what we are thinking, we repeat overtly the words of others, through group participation which is transformed into our personal verbal repertoire, which we can use in action to guide our path (Wells, 2009). It was a soliloquy of self-instructional learning by the learner for themselves in their own words.

Research Design

Introduction

The following portrays the evolution of the research design methodology applied in this instance to educate adults with moderate ID in culinary arts at home. The study began by determining the settings where instruction took place, followed by the project context, identification of participants and finally a concise detailed description of the intervention as it unfolded.

Setting

Culinary arts training took place in two locations. Primarily culinary training took place in the kitchen of a restaurant. The primary site selection was very important to the overall project (Gall, Gall & Borg, 2003). The environment immersed participants in a real authentic professional working kitchen. A number of additional annexes in the restaurant were also used solely by the participants and researcher during training. Those spaces facilitated the creation of a community based confidential forum for training and group discussions (Cambridge & McCarthy, 2001).

After the participants achieved skills competency in the restaurant kitchen, their training progressed to their homes. Practical training there facilitated skills acquisition for students which was liberalising and humanising (Hegarty, 2004). I took a situative approach to culinary education that enabled collegiality and continual collaboration between participants in the professional kitchen (Lave & Wenger, 1991). This approach was evidence based with instruction relevant to the location.

Context

The possession of cooking skills offers the bearer the potential to cook a meal for a friend/guest in their own home: This act of hospitality is more than the sum of its parts (Mechling, Gast & Gustafson, 2009). It carries with it considerable social kudos (Wood, 1995). Having the ability to prepare a meal with high intrinsic values is a worthwhile aspiration (Armesto, 2002). Though how cooking skills are taught is as important as the actual skills themselves (Mithaug, 1996).

If cooking skills are taught in isolation, one to one, purely in a dogmatic fashion away from the living environs of the student then the practise does little to build upon their self-esteem, SD and self-advocacy skills (Herman & Gomez, 2009). If however a student can learn to cook in a COP and contribute to recipe design then the exercise becomes more important to them (Brewster & Ramcharan, 2005). Collaboration with participants in the creation of their educational programme created space for their self-instruction (Pintrich & De Grout, 1990). I endeavoured to articulate through training methods non-verbally that I believed in them (Knowles, 1980). I acknowledged their innate power and aspired to enable them to access their power in fulfilment of their own goals (Agran and Wehmeyer, 2000).

Collaboration with participants in a community of practice sought to discover if participants could self-generate opportunities for creativity, self-learning and self-empowerment in their education (Bandura, 1977). They demonstrated power which was exercised in fulfilment of their own personal goals (Mechling et al., 2008). Training helped them to drive their own learning and critique, evaluate and improve their performance (Mechling, 2008). The idea for the project was refined over the last three years in consultation with potential participants, their key workers, house parents, care staff, informally at the SP (Barton, 1999). The *service users* with ID who were training at the SP requested that I teach them to cook for themselves at home.

I tentatively progressed with their request using my thesis as a framework document in collaboration with research, training, adult services, care representatives and in consultation with tutors and supervisors of SPC. To fulfil necessary academic and

equitable requirements a strict entry and exit criteria were devised (Appendix, D). Historically, while researchers have demonstrated the effectiveness of instructional digital designs for educating people with ID, their instruction most commonly comes from someone else, not themselves (Ayres, 2012).The enterprise of successfully marrying educational practice with contemporary technologies is now common practice (Crook, 1996). This study aimed to teach cooking skills in a group setting then empower adult students to transfer their new skills to their home. Following concept development, presentation and feedback of the research to tutors of SPC the intervention was further refined.

Ethical Issues

It is difficult to get the ethical permission to work in research with adults with ID. Most SP, parents, guardians act as gatekeepers and given their vulnerability this is understandable. The enactment into law of new government policies and the piecemeal training of staff regarding new legislation is not enough to improve the lives of those in care. The institutional culture for those in care at each service provider has evolved over many years and cannot be deconstructed overnight by hastily delivered training programmes. Real transparency for SP can only be achieved if students, researchers, advocates and volunteers are given the opportunity to engage with service users regularly. Given that the participants and I were already familiar the approach was recognised as bringing with it numerous epistemological, political and ethical considerations, the most important of which was prolonged engagement (Anderson & Herr, 2010). It also gave rise to certain personal, strategic and ethical issues which had to be taken into account and considered such as personal values, biases and personal backgrounds that can shape interpretation (Creswell, 2009).

Being objective is an essential aspect of competent inquiry and I needed to be aware of my close relationship with the participants which could impact negatively on research validity, reliability and contribute to bias. My insider status, assistance of care staff, house parents and key workers, their knowledge of the culture at play and their emotional competency were all valuable components in the co-construction of knowledge as the participants' needs were being addressed (Kubiak, 2013).

People with ID often find it difficult to understand information given to them and often their choices are restricted (Antonarakis & Epstein, 2006). Bogdan and Biklen (2003) determine that the two issues which dominate the traditional official guidelines of ethics in research with human subjects are: informed consent and the protection of subjects from harm. I recognised the emotional vulnerability of participants. Swain, Heyman and Gillman (1998) caution that all researchers are potentially in a position of power especially when working with people with ID and their rights should be upheld. The question of representation and involvement of people with disabilities in research is a necessary, but complex issue (Beresford & Campbell, 1994). I was aware that participants may feel as if they want to please me and do not want to disappoint. AR provided the safest medium to conduct this inquiry because of its flexibility. While the project had aims if none of them had been achieved then the process would have still proved to be worthwhile using AR.

Facilitating self-instruction involved the digital recording, file storage and copy to disc of participants' images which were sensitive issues in terms of confidentiality. Vicarious experience may be the most universal, inclusive learning medium though it is also the most easily exploited. I ensured that all recorded data was downloaded

onto an encrypted laptop immediately after video recording. I then backed up this data onto another encrypted hard-drive before deleting the original data from the digital recorder. Hardware was stored in a locked room. Participants only played their DVD recordings on personal DVD players not on laptops to prevent their accidental upload to social media sites. The data will be destroyed after the completion of this study. The main ethical issues that needed to be addressed were maintaining participants' confidentiality, anonymity, self-determination, informed consent, freedom from coercion, and deception, reducing risk of self-injury and emotional vulnerability.

Confidentiality was maintained by the use of alias, to protect participants' rights to privacy. Anonymity was preserved by limiting access to the recorded material only to those people directly involved in the research. Participants only had access to their own audio visual material when they stayed in their community home. Participants understood the nature and purpose of the project prior to recruitment. Pseudonyms were used for them in all documentation and they were assured that feedback they shared was treated with confidentially. Nevertheless total anonymity may deny a voice to vulnerable and invisible participants and each AR dilemma requires its own debate and individual solution. This project created new opportunities for delivery of learning and means for participants to learn. If participants wanted to share their contribution with peers or other learning communities, it was their decision.

A plain language statement (Appendix F) and pictorial informed consent questionnaire was developed and presented to participants to ensure they knew the detail of the intervention (Appendix G). Freedom from coercion; provision for

individual's right to choose was facilitated by provision of detailed information on the project in an accessible format, that encouraged their informed consent with support from parents and guardians. Their right to refuse or withdraw at any time was also articulated to them in a clear concise manner. In relation to the risk of self-injury risk, safety and welfare were central considerations in the provision of training to participants.

In relation to emotional vulnerability one could not overlook participant's vulnerability given their ID. Their eagerness to please may create emotional difficulties for them. Strategies which reduced this negative potential included the AR approach in a collaborative style working together with the support of participants and care team.

Following consultation with supervisors an application to the ethics committee of the SP was also made. It was challenging to complete as the application format specifically related to medical research trials (Appendix, H). Following completion, submission and approval, an application to the research committee of the SP was accepted. The latter submission was granted approval with minor adjustments to the proposal. The main document change requested was that the description of participants with a learning difficulty as a descriptor be altered to participants with an ID. While every individual is unique and their overall abilities or potential cannot be tested or determined simply by an Intelligence Quotient (IQ) test, IQ testing is still used by psychologists to determine intellectual functioning. All participants in the investigation were so defined as being in the Moderate Range of Intellectual Disability (MRID) functioning. Clinical definitions of MRID vary but it

is generally accepted as being within the IQ range of 35 to 54, with people having Adaptive limitations in 2 or more domains (Appendix, C).

Participants

Participants with ID of previous research projects had successfully learnt to cook using VM (Graves et al., 2005; Mechling et al., 2008). In each case the participant's level of cognitive functioning was stipulated (Binet & Simon, 1905). Therefore to ensure the scientific rigour for this project it was necessary to ensure participants were in the same cognitive range. While every individual is unique and their overall abilities or potential cannot be tested or determined simply by an Intelligence Quotient (IQ) test, testing is used by psychologists to determine intellectual functioning (Appendix E).

All participants in the investigation were so defined as being in the Moderate Range of Intellectual Disability functioning. Though all their psychology test scores are not assessed by the same person or using the same formats. Therefore there are differences in the summary of their data sheet below. Lorry for example has no recorded IQ score though she was recognised as functioning within a similar range to the other two participants. Each participant was a unique person with a different life history and strong individual personality (Appendix, Z2, Z3 & Z4).

"Key informants help give perspective to the entire methodological front" (Woods 2002, p. 85). Consenting volunteers from a SP for people with ID where I was employed took part in the project. Recruitment was in consultation with them, their parents, guardians and the adult services committee as part of their individualised

PCP. Each individual's right to choose to participate was respected as everyone did not wish to do so.

The practice of obtaining consent from parents and "gatekeepers" is well established in research. Decision making was supported (Bach & Rock, 1996). All participants and their advocates were advised that they were free to take part in the study or not and that they could withdraw at any stage. No added incentives were offered to participants.

Participant	**Jordan**	**Cal**	**Lorry**
Year of Test	1990	1980	1991
Current Age	36 years	54 years	43 years
Functioning (*WHO classification*)	Moderate	Moderate	Moderate
Visual Performance Bender Gestalt (*Koppitz – 1974 norms*)	4.10/12 years	8/8.5 years	N/A
Communication (*Full Range English Picture Vocabulary Test*)	7- 7.1/12 years	4.9- 4.10/12 years	Poor
Stanford Binet Intelligence scale	5.11/12 years	6.6/12 years	12
Intelligence Quotient	40	63	N/A
Vineland Adaptive with ability (*Behaviour Scale*)	4.11/12 years	N/A	In line
Marino Graded (*Word Reading Scale)*	No recognition of letters or words	7.9 years	No recognition of letters or words
Vernon Graded Arithmetic (*Mathematics Test)*	N/A	6.4 years	N/A
Ballard Tests of Addition and Subtraction	N/A	6 years	Approx. 5 years
Communication Domain Age Equivalent	4.11/12 years	N/A	Performed poorly
Daily Living Skills Domain Age *Equivalent*	5.10/12	Performed poorly	Capable
Socialisation Domain Age Equivalent	5.7/12 years	N/A	N/A
Adaptive Behaviour Composite Age Equivalent	5.5/12 years	N/A	N/A

Table 3.1 Summary of participants' available psychologist assessment results in school (they have been carried out by different people so results are not always similar) (Ammons & Ammons, 1948; Ballard, 1923; Ballard, 1928; Bender, 1938; Daniel & Diack, 1974; Koppitz & Bender, 1964; Neale, 1958; Piotrowski, 1995; Sparrow, Cocchetti & Balla, 1984; Suilleabhain, 1970; Vernon, 1966).

Sample

The sample size was three and the selection process was purposive using inclusion/exclusion criteria (Appendix E). The inclusion criteria matched similar participant's level of functioning referred to in the literature review which was in the moderate range of ID. It was necessary for them to prepare food safely for consumption so food hygiene training was incorporated as a prerequisite. Candidates needed to be able to operate a DVD player on their own and generate overt auditory prompts. Inclusion criteria were as follows: Participants had no previous cooking experience but who have completed training in healthy eating, hygiene and food safety by an accredited trainer. Participants were also required to have good communication, motor and social skills with cognitive functioning at moderate range of the ID spectrum. They further needed to possess the visual ability to see pictures/ screen and hear to process auditory cues.

Out of a target population of twenty people who were based at the SP, following consultation with families, key-workers, house parents and care staff only three people satisfied inclusion criteria and pre-determined pre-requisites (Appendix E).They were two females and one male who were interested and willing to participate in the project, who had no attendance issues (Appendix E). Each participant's clinical diagnosis was verified to ensure that they had a moderate ID (Appendix, C). Three people provided an opportunity to study their unique emic perspectives and closely monitor and evaluate their performance. Action researchers aim to develop close educative relationships to enable participants to learn and grow (McNiff, Lomax & Whitehead, 2003). Similar studies in this field especially teaching

using VM also adopted the same number of participants (Mechling et al., 2009; Bozkurt and Gursel, 2005).

Briefing

Information on the programme was provided to participants as an informal introductory chat followed by reading of a plain language statement (Appendix F) and through a pictorial consent form developed by the speech and language department of the SP (Appendix G). The group setting encouraged self-disclosure with relevance to food and provided an opportunity to address numerous people at the same time (Doyle, 2009). A letter was sent to parents / guardians (Appendix J) and care staff / key workers (Appendix K) describing the project in detail, requesting their approval and support for each participant over the duration of the project.

A letter was sent to senior management requesting permission to work on the site of the SP grounds and visit community homes of participants (Appendix L). A request was sent to the community manager to enable co-operation with staff in participant's homes, both of which are accepted (Appendix M).

Following commencement of the intervention I met with the multi-disciplinary committee of the SP to seek support of members including psychology, social care and residential teams. While it was my intention to create a rewarding and pleasurable learning environment I could not overlook how vulnerable the participants were given their ID. Strategies which reduced this negative potential included the AR format of the investigation in a collaborative style with the support of participants' key-workers and care team. Throughout this programme participants received reassurance, positive

reinforcement and feedback from me. House parents and I also monitored participants for negative verbal/ non-verbal cues to diminish their chances of feeling anxious or disappointed. If a participant became distressed or upset during the course of the research project, they were immediately withdrawn from the stressful situation, reassured and care support provided.

Semi-structured Interview

The primary research collaboration between participants and I was through an informal discussion as I sought to record each participant's ideas about cooking. "Observation behaviour is clearly a useful enquiry technique, but asking people directly about what is going on is an obvious short cut in seeking answers to questions"(Robson, 2002, p. 272). Everybody was acknowledged to be a purveyor of rich knowledge and their experiences were important (Booth, 1996). Open discussion in the participant group which "consist of people you have specifically selected for their experience in relation to whatever you are studying" is a data-gathering method that "encourages self-disclosure" (Kane & O'Reilly de Brun, 2005, p. 273; Wilson, 1997, p. 209). They provided an opportunity to informally interview all the participants at the same time (Flick, 2010). Their response's shaped the format and direction of the inquiry.

A number of methods used to ensure effective questioning of participants included a commitment to seek clarifications, explanations, connections and summaries (Woods, 2002). Following consultation a number of questions were designed and developed into a semi- structured interview (Appendix, A). Notes were written up immediately after consultation and I entered them in a food journal (Woods, 2002) (Food journal,

24.03.13).The topic of scrutiny was the food preferences of each participant. The interview questionnaire was required to record preferred food preferences of individuals and incorporate them into recipes to cook. The questionnaire simply confirmed their personal likes and dislikes relating to food. The semi-structured interview questionnaire was then piloted.

Pilot

The pilot was tested with non-participants who functioned in the same range of moderate ID. A pilot study gives you "a chance to ensure that you are on the right lines conceptually" thus enabling "meaningful data" to be collected (Robson, 2002, p. 97). It provided an opportunity to revise the design, rethink and develop the research questions (Robson, 2002). According to Blaxter, Hughes and Tight (2006) the value of pilot research cannot be over-estimated. In the primary interview candidates were asked about their food preferences which were usually of a fast food nature. The pilot was therefore checked out, almost like a "test drive" (Teddlie & Tashakkori, 2009).

A revised questionnaire was employed to interview participants specifically about their healthy food preferences using the new template (Appendix, B). They were asked about their preferred healthy food preferences as it was not beneficial, practical or desirable to replicate chosen fried foods options as part of this study. The exchange revealed participants' likes and dislikes in relation to food. The intervention was designed and delivered based on their preferred food options (Appendix N).

The next step in the design was to incorporate the feedback into original recipes that provided the ingredients for the meal to be prepared. The quality of data gleaned from

interview was decisive to the quality of the planned intervention (Kvale, 2008). Face to face discussions in a semi-structured format provided me with the opportunity to modify the intervention to suit each individual's needs. The interview process involved me encountering the events studied with a relatively open mind to see what had become relevant to the research problem being addressed (Seale, 2012).

Recipe Design

The feedback from interviews provided the impetus to devise the most appropriate recipes to meet student's individualised healthy needs. The intention was that by the end of the training programme every student would be able to prepare and cook a healthy meal in their own home. Recipe formulation led to the creation of a planned innovative pedagogical meal which consisted of a smoked salmon omelette, garnished by available summer salad ingredients in homemade honey, mustard and lemon dressing accompanied by a baked potato seasoned with freshly cracked black peppercorns. The recipes were designed to be aesthetically pleasing, nutritionally balanced and age appropriate. The collaboration with participants as active members in the research process is an important acknowledgement of their voice and their rights (Berebaum, 2002). Participants combined ingredients ratios based on their own taste and preferences.

Baseline Data

This project required basic baseline data which began with clinical definitions of participants and recording of their actual knife skills prior to commencement. I applied a universal educational design perspective that was appropriate to all.
The following operational framework below outlined my research design.

- Implemented an individualised needs analysis through interview and practical assessment of student's knife skills (Appendix, O)

The design of an appropriate pedagogical meal was for only a single meal based on students' food preferences, their expectations and predicted potential skills following completion of training (Appendix N). The intervention included planned development of predicted culinary skills of participants through SI in consultation with them, their key workers and advocates. Training applied consisted of clearly documented, defined analysed actions applied consistently time after time in exactly the same format. Clearly defined target behaviour was specified, recorded, evaluated, measured, assessed which made it easier for the student to master and easier for me to translate and teach. This is the primary phase of SI.

- Students participated in a practical elementary instruction and practice using a knife. This consisted of task analysis and training holding a knife in a safe position on a chopping board and cutting parsley (Appendix O). After one week students became competent. The record of their participation was the basis for their knife skills baseline assessment. Baseline knife skills assessment was recorded using a high definition Sony digital camera (Appendix Q). The video content analysis of participant's task performance was recorded (Appendix R). For inter-reliability the video footage of each participant's baseline knife skills assessment was interpreted and recorded by their key worker (Appendix R). Lesson plans in script and photographic format were devised in consultation with participants to assist their training

(Appendix T). Design took into account their current skill levels as depicted by their baseline performance. Initial training in the restaurant kitchen in group format was carried out over an eight week period.

- The design and implementation of the operational framework enabled the development of core skill competencies for students through SI (Appendix S).
- Creation of six short specific lessons with pictorial task analysis representation was required by cohort to execute their pedagogical meal.

Lesson Heading	Key Objective	Methods Used
Safe position	To know where is safe to work	Demonstration, modelling and coaching
Knife skills	To use a kitchen knife safely	Demonstration, modelling and coaching
Making dressing	To combine ingredients correctly	Modelling, coaching and tasting
Making salad	To safely chop and mix ingredients	Modelling and presentation
Making an omelette	To safely prepare and cook an omelette	Modelling, coaching and tasting
Baking a potato	To cook in the microwave oven	Demonstration, modelling and coaching

Table 3.2 Participant Culinary Arts Task Analysis Tutorial

- Instruction was planned in three specific systematic steps including an effective sequenced educational curriculum to promote skills development, an effective learning environment related to culinary skills and an evidence based delivery approach (Drasgow et al., 2011).

Chaining linked tasks from easy to hard and training was perceived to be important to participants (Wehman et al., 1985). This methodology applied in their culinary arts education was similar to paired associates strategy building and linking new skills from previous learnt experience (Bulgrem & Shumaker, 1996). Delivery of training

was carried out by the instructor through demonstration, modelling and continued repetition by participants. Pictorial cue cards of every task in each lesson plan were also provided to them. Multiple methods of content delivery were applied through SI, video recording, pictorial hand outs and key-worker support. Participants received support putting ingredients in place before cooking and this assistance was withdrawn as they learnt to set up their work top for themselves. I continually assessed participant's progress and applied training based on their development. I encouraged students to self-prompt throughout. Training was in multiple locations to facilitate their skills acquisition and enhance transferability in future contexts (Snell, 1983; Storey & Miner, 2011; Mechling, 2008). Transferability was enhanced by over-learning (Rosenshine, 2012).

Every step in the participant's progress was digitally recorded as evidence. They overtly self-generated verbal cues as they cooked. VSM and self-talk is an easily self-operated record of skills in action and also a record of self-instruction, self-articulated by the participant not from script. There were 6 lessons, broken down into 24 training activities followed by 12 practice sessions cooking the full meal in the restaurant. To make the smooth transition for participants from cooking in the restaurant to home I visited each house. I analysed each kitchen, assessed equipment, appliances and adapted training for each participant to their own home specific needs.

The participants could therefore apply with the assistance of AT learned knowledge and skills to their home space. The participants were familiar with personal DVD players and I trained them in their use (Food journal, 29.5.13). I recorded each participant as they cooked a meal. They then received an edited DVD copy of their

recording. Their footage represented a perfect template which they could review and assess by themselves at home. They did so over the course of the following eight weeks. Thereafter the participant's personal copies of themselves cooking were withdrawn and they continued to cook without further instruction. A detailed study protocol was devised and executed from the start of project to conclusion (Appendix, P).

Data Collection

A number of sources were used to build a holistic view of the participant's ability levels. Primarily assessment included performance and needs analysis. Design of their subsequent training plan became therefore more relevant and applicable to their individualised training. Performance data was collected continually during their training. I maintained a food journal during the project (Appendix I). The journal explored the events studied with an open mind. It was important that I maintained objectivity during observation (Stringer, 2007).

Other instruments included school reports, psychological assessments, a semi-structured interview, food choices, knife skills (Appendix B, N & O), the researcher's journal, participant's task analysis (Appendix, O), audio visual digital recordings of students developing and executing their culinary skills in the training centre and at home, edited DVD copies of them cooking at home, a record of how frequently they cooked at home, and a final commentary from them about their present circumstances (Appendix X). It was possible to show live action of the research process using multiple forms of data representations (McNiff, Lomax & Whitehead, 2003). It was important for the credibility of the methodology applied to determine the outcome in

a thoroughly rigorous academic fashion (Nixon & Adamson, 2010).The focus on methodological rigour within this project enabled me to review data as a well-informed disciplined process. Shipman (1988) determined that the credibility of research is based on how data is managed. AR is seen as disciplined enquiry to improve practice and produce evidence for critical scrutiny of others (McNiff & Whitehead, 2002). AR presented a means to manage data in an emancipatory fashion. It is value laden data containing information which can be used to create positive changes in peoples' lives (McNiff & Whitehead, 2011). It is imperative that new research contribute to the knowledge base to show how outcomes may be understood as learning not performance (McNiff et al., 2003).

Project detail

Phase One
Desire to cook
Prerequisites
Hygiene and food safety training
Healthy nutritional food programme
Support from multi-disciplinary team

Phase Two
Project critique by peers, lecturers and supervisors (4th May 2012)

Phase Three
Approval from ethics and research committees

Phase Four	Instruments
Recruitment of participants	Plain language statement
Consent	Consent form
Sought permission of parents/ Guardians	Letter of permission
Participation	Letter of approval
Interviewed candidates in relation to their food preferences	Questionnaire

Phase Five	Instruments
Devised a meal recipe plan	Questionnaire feedback
Simple recipes were devised	Collaboration with participants
Devised lesson plans in consultation	Scripted and photographic plans (Appendix T)

Recording events of the research project in a progress	Food journal
Recording consultation with stakeholders	Food journal

Assessment of candidate's knife skills	Task content analysis record (Appendix R)
Feedback from keyworkers and care-staff	Food journal
Re-devised lessons to improve candidates knife skills	Pictorial lesson plan
Recorded baseline data of knife skills	Digital recorder
Developed detailed learning objectives (Appendix T)	Pictorial lesson plan

Phase Six	Instruments
Training in restaurant kitchen for a period of eight weeks	Digital recorder
Consultation and feedback from keyworkers	Food journal
Key worker review with students	Assessment template (Appendix T)
Feedback from keyworkers	Food journal
All training activities	Digital recorder (Appendix Q).
Feedback from house-parents	Food journal
There were recordings taken for each participant for every step of their training from initial knife skills introduction at the restaurant right through until they were cooking for themselves at home (Appendix W).	

Phase Seven	Instruments
Cooking at each person's home	DVD recording

Phase Eight	Instruments
Evaluation record of cooking	DVD recording

Phase Nine	Instruments
Interview	Food Journal (Food Journal, 7. 4.14).

Table 3.3 Project protocol and instruments

Data Analysis

Yin (1994) determined that we should adopt an analytical approach in research to identify what needed to be examined in greater detail and why? Within the interpretive and emergent methodology of AR the case study writing process captured incidents, events with collection of biography, personality and intention that facilitated the construction of a more meaningful, convincing story (Koshy, 2005). Yin (1994) described case study as a strategy for doing research which involved "an empirical inquiry that investigated a contemporary phenomenon within its real-life context" and "relied on multiple sources of evidence" (p.13). Therefore, adoption of a

case study approach allowed multiple sources of data and multiple perspectives to reflect the ongoing development of participants.

The literature review presented a contemporary speculative method of research action to train participants in the acquisition of culinary arts skills using vicarious experience, SI and AT collectively. The combination of elements of different learning theories including behavioural sciences, apprenticeship, immersion, SLT, motivation, COP and constructivism into one educational intervention based on an eclectic mix of the aforementioned theories created evidence from speculation (McNiff & Whitehead, 2002).

From the generation of data, data analysis is made easier when you know what you are looking for and where to find it (McNiff & Whitehead, 2011). Outputs were the interview results, first assessment of knife skills, continual feedback from student's orally to their key workers after each class (recorded in their feedback questionnaire) and their journal entries (recorded by the key workers), continual observations over the course of the project by myself as tutor recorded as journal entries, informal communication and feedback from staff, house parents, care staff and video footage of group activities and individualised recordings.

In the audio visual domain converting significant events into photographs is a means of capturing the essence of what happens (Koshy, 2005). Data in the form of digital recordings provided an accessible, authentic medium to convince actors of the impact of the project on their everyday lives (Koshy, 2005). It was motivational. It showed participants and their peers their progress throughout the study (Adams,

1990). Though this data was not research evidence, I needed to isolate as evidence those pieces of data in relation to the criteria that showed criteria in action (McNiff & Whitehead, 2002). I did so by freezing specific pictures from video footage of participants in action continually throughout the study and cataloguing, referencing and recording this evidence to show the observed criteria. Assessment of each participant's performance was evaluated against required criterion. Each step of the documented task analysis in the task chain defined the required criteria.

The evidence was transformed from data when the student displayed action that matched the criteria. It was possible to show links between one's own practice and the quality of educational experience of someone else (McNiff & Whitehead, 2002). The right to claim to knowledge revolves around validating it (McNiff & Whitehead, 2002). This was achieved through sound data collection and the consensus of accurate interpretations (Koshy, 2005). Making a claim is saying something is known which was not known before (McNiff & Whitehead, 2002). Collecting and organising the data involved the same processes of action and reflection (McNiff & Whitehead, 2002).

Case study analysis is a triangulated research strategy whose methodologies involve systematic collection of objective data and rigorous analysis. The role of triangulation in data gathering involved gathering accounts of the experiences of participants from themselves, their key workers and me justified as three opposing points of the triangle. While the study also remained conscious of Bell's (2005) concerns about "selective reporting" and "the resulting dangers of distortion" (p.11) coupled with Yin's (1994) admonition to report all evidence fairly.

The selection and continuous analysis of data is consistent with the emergent nature of participatory research (Koshy, 2005). The project generates new knowledge telling a shared story in the form of research validated in terms of its own criteria (McNiff et al., 2003). The format consists of an evaluation of each cycle and reflection. In each cycle intermediate claims are made based on data evidence which forms a formative evaluation, which is followed by a summative evaluation statement (McNiff et al., 2003). These are compiled as ongoing progress reports (McNiff et al., 2003). In the collaborative research process there is still a need to emphasise that generalisability is possible to other people in similar circumstances (Koshy, 2005).

Analysis of the data occurred as the project progressed. At the time of analysis themes and patterns which were identified were cross referenced with aspects of the literature review (Koshy, 2005). The move from observation and description of action means moving to offering explanations for action (McNiff & Whitehead, 2002). In the text, excerpts of case records, which were a condensed version of them, were included in text and referenced in appendices (Guba & Lincoln, 1989). The discipline of realising values as practice from data collection to organisation is all part of the transformative processes (McNiff & Whitehead, 2002). Data analysis comprised of three activities of data reduction, data display and data verification (Koshy, 2005).

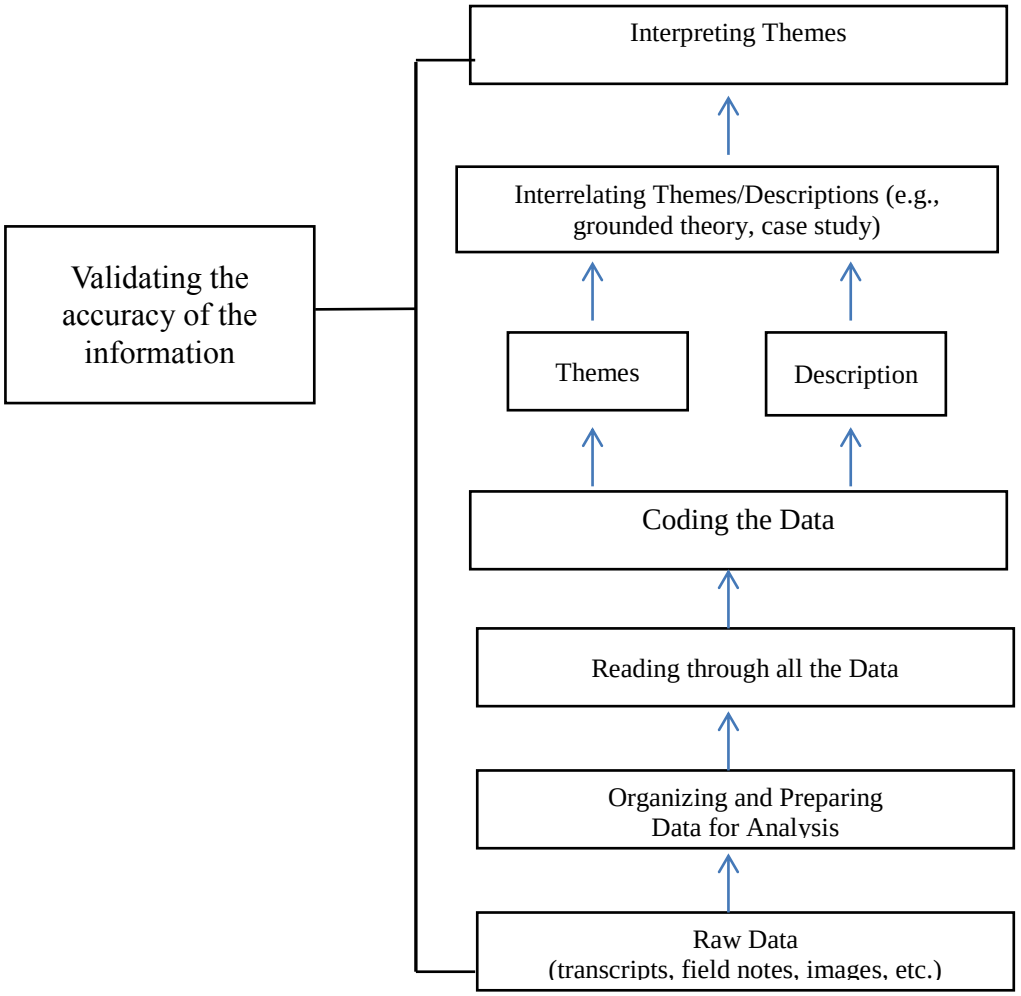

Figure 3.2 Data Analysis in Qualitative Research from Creswell (2009, p. 185).

Examples of evidence used included archival video recording, post training interview data generated by participants to their key worker, direct observations by me in my journal and physical artefacts such as the meal. The major strength of case study data collection is the opportunity to combine major evidential sources into converging lines of inquiry. Procedures were developed and mastered to ensure that each source was properly used (Yin, 1994). The analytical strategy used a simple coding system for each unit of data found. Coding was analysis and a method of discovery which encompassed deep reflection, deep analysis and interpretation of the data's meaning (Miles, Huberman & Saldana, 2014).

The following is a description of a participant's cooking trial entered into my food journal. The description includes what the participants did and my interpretation of their actions, reactions as they carried out the tasks. Descriptive passages have been interpreted and coded by the author. Most of the analysis was completed with words that were assembled, sub-clustered, or broken into sections to enable comparison, contrast and the construct of patterns from them (Miles et al., 2014).

The participant made an omelette on the gas cooker in the kitchen by pouring the beaten eggs into the hot pan. **Enthusiasm**
She was careful not to put her hand over the flame while cooking. **Safety**
She moved the egg mixture around the pan carefully and methodically. **Skill**
When the egg mixture hand been folded into a cigar shape it was neatly turned out onto a warmed plate. **Timing**

Triangulation involved the analysis of the recorded video footage to see if these codes were verified in the material evidence and or if there were further relevant details. The data was further cross referenced with feedback from the participant's key-worker at completion of the lesson. Finally group meeting records with participants from the food journal were cross matched to see if there were the same codes evident. I asked the participant how they felt while trying to complete the tasks to see if my evidence was reflective of their experience.

The initial coding list includes:

A. Enthusiasm

B. Safety

C. Skill

D. Timing

Coding was further cross referenced and analysed with research data to reflect specific interpreted emic and etic perspectives of participants as follows:

A.1 Fear	B.1 Caution	C.1 Practice	D. 1 See
A.2 Heat	B.2 Control	C.2 Touch	D.2 Know
A.3 Care	B.3 Discipline	C.3 Knowledge	D.3 Estimate
A.4 Desire	B.4 Self	C.4 Confidence	D.4 Anticipate
A.5 Motivation	B.5 Determination	C.5 Power	D.5 Experience

Table 3.4 Sample Coding Matrix

These are all important components of good cooking. Following their identification I could establish that the participant was competent in the assessment. Therefore training was effective and could progress. When all data for each individual was analysed into their own progression narrative it was then cross referenced with each of the other participant's narratives.

A primary goal within-case analysis is to describe, understand and define what is happening in a single, bounded context or site (Miles et al., 2014). To develop a well-rounded view providing a sense of reality to the investigation multiple case analysis increased generalisability ensuring events were not viewed as being specific and seen as typical rather than distinct (George & Bennet, 2004). The process created a bigger platform to base findings on which were not unique to just one case. The evidence provided from using single case studies in a comparative fashion against each other as multiple cases in an investigation was considered more compelling or robust (George, 1979). The logic underlying the use of multiple case studies was that each case was

carefully selected so that it either predicted similar results as replication or produced contrasting results for predictable reasons, a theoretical replication (Yin, 1994).

This case-oriented approach looked at configurations, associations, causes and effects within the case in order to form general explanations. The various, richly detailed biographical profiles were then compared for analysis (Miles et al., 2014). It was important to maintain a chain of evidence allowing for the external observer or reader to follow the derivation of evidence from initial research questions or from questions to conclusions. The external observer should be able to trace the steps in either direction (Yin, 2009). Each case needed to be understood in its own terms but with the added advantage that comparative analysis provided greater understanding and explanation (Miles et al., 2014). The individual case reflected the subtle differences between people demonstrating diversity while also providing evidence of what worked for participants across the spectrum. A summary of themes salient to review were compiled (Appendix, Y).

Comparison helped to provide more comprehensive evidence of findings and to make it more plausible. The ultimate goal was to treat evidence fairly to produce compelling analytical conclusions and to rule out alternative interpretations (Yin, 1994). The general strategy was to analyse the individual progression of the students practical skills coupled with their opinions and feedback to drive and steer the study. Analysis happened continuously and determined the next step or course of action to action. Informed action improved participant's competency, confidence and their greater self-empowerment skills.

Figure 10 reflects the replication approach to case study. “Each individual case study consisted of a whole story, in which convergent evidence was sought regarding the facts and conclusions for the case; each case’s conclusions were then considered to be the information needing replication by other individual cases” (Yin, 1994, p. 49).

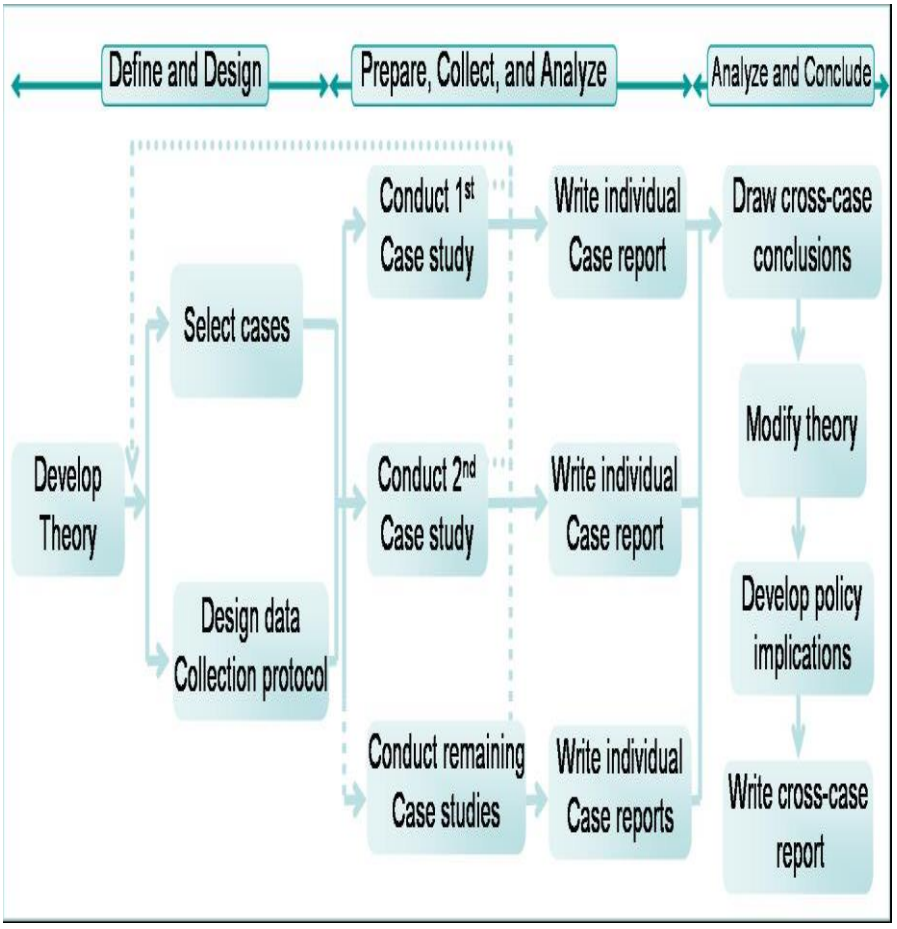

Figure 3.4 Case Study Method (Yin, 1994).

The original design and objectives of the investigation were based on reflecting the individuality of each participant I relied on theoretical propositions that led to the evolution of the case study inquiry. These were the research questions, literature and new insights. These theoretical propositions helped to expose the theoretical orientation that guided this study. It helped to focus attention on data specifically related to each student’s opinions and performance.

Both the individual and multiple case results were compiled into a final report. The medium enabled cross-case analysis that enhanced the richness of the data. The research was conceived in the process of a shared story which was validated in terms of its own criteria (McNiff & Whitehead, 2002). I played a participant observer role in the project. My position was constrained by being central to data and I recognised the potential for bias of interpretation (Robson, 2002). The project was dependent on the utilisation of my skill and tacit knowledge. Video recording was used in conjunction with note taking or memory markers in my journal (Baker, 1988). It was not the only data source. The cooked food was the primary source of data for this investigation. Video was primarily used as a learning tool rather than the only data source. The rationale of this methodology in case study was to portray a rich and detailed account of what was going on with the participants on the ground, what happened to them (Travers, 2001). Multiple-case sampling adds confidence to strengthen the precision, validity and trustworthiness of findings (Miles et al., 2014).

Validation

The quality of the research was dependant on the quality of the evidence (McNiff & Whitehead, 2002). This study used feedback from participants recorded by their key-worker's, written observations entered in my journal and recorded video material which was triangulated to establish a clearer understanding of the phenomenon. The plan was to monitor and evaluate the effectiveness of the training and adapt it continually to suit their progression and needs. The aim was to reflect the position, experience, narrative of the participants from multiple angles. Triangulation was applied as a way to establish validity of the research findings (Koshy, 2005). Triangulation confirmed construct validity of the processes (Creswell & Miller,

2000). The use of a number of cases confirmed external validity. The individualised case study is a comprehensive research strategy (Yin, 1994). Consistency in overall pattern from different multiple data sources contributed to internal validity. Triangulation involved demonstrating the authenticity of the data, negotiating the authenticity of the data, which was then transformed into negotiating the validity of the evidence (McNiff & Whitehead, 2011). Evidence from field notes, video footage, feedback from participants and key workers were scrutinised and coded by me to enable presentation of a clearer comprehensive summary of the phenomenon.

Inter-observer reliability was employed to assess or estimate the degree to which a number of observers watching a phenomenon were consistent in the same features, tasks or actions they observed. Having assessed two recorded discs which were recorded at the beginning (Appendix, Z) and end of the project (Appendix, Z1) two key workers were asked to mark when they saw behaviours occurring from a template. Scores of 90% concurrence for the first video (Appendix, Z) and 96 % for the second test score (Appendix Z1) were calculated. These scores present evidence confirming validity. The process of validating knowledge is moving beyond autocratic activities towards new dialogical forms of engaging with the report as an authentic representation of a life lived (McNiff & Whitehead, 2002). Multimedia presentation displays the reality of practice more adequately than verbal reports (McNiff & Whitehead, 2002).

Using 1st video assessment SN/LN = 90 % (Appendix Z).

Using 2nd video assessment SN/LN = 96% (Appendix Z1).

Doing research following traditional pathways for validation is not applicable in AR and is inadequate (McNiff & Whitehead, 2002).Validation involved the testing of the

truthfulness of a claim by making it public for critical scrutiny in relation to appropriate standards of judgement (McNiff & Whitehead, 2002). While it was not simple to detect or quantify students' skill levels at any one time it is more difficult to discern their real feelings. AR is considered to be an appropriate strategy (McCormack, 2002). Collecting evidence on students levels of confidence and participation is challenging (Koshy, 2005). Over the course of this project it was a struggle to maintain academic rigour in order to build the case for replication studies in the future. Validation was most easily identified by framing individual pictures from video evidence which added to the strength of data. It is important to make claims about research and not only about the action (McNiff & Whitehead, 2002). The research process takes the form of identification of the participant's learning needs, imagination of a solution, implementation of the solution and modification of practice (McNiff & Whitehead, 2002).

In qualitative research, there is "no golden key to validity" (Silverman, 2010, p.275). Gall, Gall and Borg (2003) suggested that the concept of qualitative validity "corresponds to the credibility and trustworthiness of the study's findings" (p. 591). In other words, is the research report credible to the participants in the study and to what extent are the findings worth paying attention to? (Teddlie & Tashakkori, 2009). At all stages the researcher engaged in reflective dialogue with participants, their key workers, their house parents, supervisors through dialogue, discussions, meetings, emails and phone calls. I used my peers and other academics or "critical friends" who, given their position outside of the project, helped serve as devil's advocate and offered alternative explanations of the research data (Gall et al., 2003). The assistance

gleaned from support staff and their involvement as critical friends improved validity (McNiff & Whitehead, 2002).

Gall, Gall & Borg (2003) emphasised that researchers should identify and apply their own criteria to evaluate the validity of their research. Through that iterative process of collaboration and discussion within the AR case study paradigm a trustworthy, authentic and credible investigative process was generated (Creswell, 2009). The use of a case study approach reflected an empirical inquiry within its' real life context, where the boundaries between phenomenon and context were not clearly evident (Yin, 1994). Analytical rigour was achieved through triangulation which is cross checking the existence of phenomena (McNiff & Whitehead, 2002). It provided the means to deal with a full variety of evidence. It was therefore perceived to be more accurate and convincing (Yin, 1994). The benefit of disseminating AR through individual cases is that the data is strong in reliability. Contrast between individual cases is easy to make. There is strong reliability of the data because it is down to earth, holds attention and supports generalisation (Koshy, 2005).

Validation involves making claims, examining critically the claims against evidence and involving others in the validation process (McNiff & Whitehead, 2002). The others enable the researcher to achieve a critical perspective by challenging assumptions made by the researcher in the course of the project (McNiff et al., 2003). At critical times when there was particular points of confusion or doubt over the course of the project, meetings were convened with participant's key workers and consultation took place in the context of a validation group (McNiff & Whitehead, 2002).The presentation of findings for this project in relation to the progress of the

participants is in a narrative form, an ongoing story for each one of them. In this regard McNiff & Whitehead (2002) highlight the importance of placing an emphasis on the person's own interpretations and negotiations of events. They also emphasise that written accounts should use different techniques to show the living processes of coming to understand: To generate theory and include self-reflective writing, written conversations, narrative and stories (McNiff & Whitehead, 2002). Conclusions have to relate to the original aims and objectives (Koshy, 2005).

Conclusion

The methodology was a qualitative process and we worked together to make it happen. Through the AR paradigm research analysis took place concurrent to data collection (Miles et al., 2014). Case study evidence strengthened the credibility of research carried out (Mc Niff & Whitehead, 2002). Multi-case sampling reinforced findings as it strengthened precision, validity, stability and trustworthiness (Yin, 2009). Multiple cases offer an even deeper understanding of the processes at play, the chance to test a hypotheses and a clear picture of locally grounded causation (Miles et al., 2014). The contribution of interagency as identified by NCSE (2013) created a synergy between everyone. The process was used to show the development of a learning community within an organisational setting and it was important to record and analyse this data (McNiff & Whitehead, 2002).

CHAPTER 4

Introduction

The purpose of this study was to see what effect AT through VSM and self-prompting had on the ability of people with ID to acquire and maintain culinary art skills in their own home. The preceding chapters proffered an outline of the problems encountered by people in learning culinary skills, the literature relating to building new skills for people with ID and a method of research that was applied in this project. This chapter presents the findings of the investigation which are based on the comprehensive analysis of data generated over the course of the project.

Findings are presented beginning with a clear outline of how the multiple case study methodology was applied in this instance to clearly compare and contrast the common and opposing research evidence for each participant. The participants' evidential paths are followed by comprehensive analysis of how their narrative and data trails are compiled and managed using thematic analysis through the research process. Clear and concise evidential examples from the referenced data portfolio are used to illustrate findings. Table 4.1 demonstrates the extensive volume of data collected, assessed and interpreted.

Individual interpretation and analysis of each participant's progression is provided in narrative form. Each individual's experiences are then cross-referenced with the extensive evidential data produced during the inquiry. The reason for this approach is to probe, decipher and present commonality, differences and relationships between participants' experiences over the course of the investigation. The experiences of each person were matched into recurring collections of descriptive categories or codes.

Codes were similarly systematically matched into recurrent themes deciphered from the participants' narrative through an iterative, spiralling aggregation process (Robson, 2002). There were recurring patterns and categories across each participant's case study which were coded into the following themes. The themes were the role of food appreciation in culinary arts education, the importance of developing a learning network with students, the enhancement of self-regulation learning through new technology and the power of overt auditory self-prompting as a means of determining the level of comprehension of people with ID in culinary education.

These themes are discussed and interpreted in-depth to provide answers to questions asked at the beginning of the investigation. The projects aims were to:

- Encourage a level of independence in one's own home, family home or group home
- Facilitate participation in the person centred process and full inclusion in goal setting
- Self-empower personal decision making regarding cooking skills
- Build life skills through gastronomy
- Promote choice over one's own diet
- Encourage participation in one's own learning/adult education options
- Encourage engagement in community activities/community presence

The above aims are considered in the context of what really happened to each participant over the course of the project. A case study as the substance of a research

inquiry consists of devised research questions, theoretical perspectives, empirical findings, interpretations and conclusions (Yin, 2004). Multiple case studies provided a more informed picture of the participant's experiences. The collection and analysis of data from three cases required much more work than from a single one. Three cases ensured that if there had been a problem with one case study there were still two more to fall back on (Yin, 2004). Research evidence from multiple cases provides satisfactory insights and is more trustworthy from the standpoint of research design such as replication (Yin, 2004). The data from the multiple case design strengthened findings and made interpretations more robust (Yin, 2004).

Each case is not simply a generic commodity but represents a real life set of events from which data was drawn (Yin, 2004). The data analysis in case study does not mean that one can only look at sets of interactions between things which are embedded in particular patterns of social organisation (Silverman, 2001). So in each case data was analysed primarily case by case through thematic analysis and only later by cross-case analysis (Stake, 2006). Thus all outputs including video recordings, interviews, scripted observations, key worker documents, and field notes were analysed for each case.

I looked to examine commonality, differences and relationships (Gibson & Brown, 2009). Entries to my food journal were written up after each lesson and data from participant feedback, personal reflections, key workers feedback and analysis of digital recordings were all compiled therein over the six months of training. Over another six months I edited down this material into a smaller concise narrative transcribed into a Word document. Finally I further reduced this data into a more

manageable size for each participant from which codes and themes were developed (Appendix X). The refined data was read and re-read continually for a further month before analysis to enhance validity and accurately reflect themes in the data (Patton, 1982). Reading and re-reading ensures that one does not neglect ideas and sections of transcripts when conducting analysis (Schmidt, 2004). As I examined the narratives they were slowly reduced in volume as each transcript was further summarised in more detail (Harding, 2013). It made it easier to identify the main points particularly when cross-comparisons were made between cases studies.

For the thematic analysis I applied the methodology determined by Braun and Clarke (2013). Thematic analysis involved taking time to become familiar with the data and generation of initial codes (Appendix Y). The thematic analysis which was carried out satisfied three goals as I examined commonality identified differences and examined relationships (Gibson & Brown, 2009).I then re-read each transcript to fully immerse in the data I reviewed themes, defined and named them (Braun & Clarke, 2006).

The narratives of participants as case studies occurred at the same time together in unison. Significantly, their skill levels progressed generally at the same pace. They were encouraged to self-prompt overtly so Lorry for example would say "I pierce the potato with a knife and put it into the microwave for six minutes" (Food journal, 12.5.13). The other participants would self-generate similar verbal prompts as I digitally recorded them cooking. At home the participants cooked a smoked salmon omelette with varying amounts of salad garnish, potato and dressing more dependent

on their preference as opposed to how they had been taught. They liked to share their creations with whoever was present in their home at that time.

There were many challenges faced by myself, the team including key-workers, house-parents working to continually gauge participants' levels of enthusiasm, commitment, interest, motivation, anxiety and stress levels. There were times when the participants could not grasp a skill or method. On those occasions they had to take a step back from cooking to rest and relax. On one occasion which was the Friday of a bank holiday weekend each one of the participants forgot steps in their cooking sequence though each person after a sit down and chat were able to pick up where they had left off (Food journal, 12.5.13). It was my responsibility to ensure that they were not simply trying to satisfy or please me (Food journal, 13.4.13).

The critical fashion and extent to which data was generated is reflected in the table below. These pieces of data have been compiled to stand as evidence in the proof of this research project and support due diligence. It was important to stand away from the process of one's own learning in order to tease out and crystallise the development of theories (McNiff & Whitehead, 2002).The gathering and triangulation of this data confirms its new status detailing evidence in each specific instance to confirm this investigation's validity (McNiff et al., 2003). The chart below represents all of the different recorded data which was prioritised for close analysis and inspection over the course of this project. A description of the background, progression and performance of each student participating in the research project is outlined beginning with confidential reports. The chart outlines the gathering of evidential data sources for each participant beginning at a young age with their school

assessments and ending with interviews completed 12 months after their culinary training. The chart records the type of data source, the time period over which the data was compiled and from where the evidence was gleaned.

Each person's confidential reports determined their clinical level of functioning and were recorded as psychological assessments over the 14 years they attended special school. Each participant was determined to be functioning within the moderate range of intellectual disability. They are represented as the first entry on the chart. As prerequisites to participation in this project it was also determined that each person should have completed a healthy food choice programme and food safety training course. The evidence that each participant had completed these training programmes was represented on the chart next as healthy food choices and food and you.
Each additional entry on the chart records the evidential trail of data determined to be important in the creation of this study and from where it was sourced. The next entries demonstrate that interviews, journal entries, recipe design, knife skills assessment and digital video recordings were gathered and triangulated in the research analysis. In addition to the above sources lesson plans, task analysis, DVD recordings, home assessments, use of personal DVD recorders, documented participant progression, cooking assessments and interviews were carried out, recorded and analysed.

1. Psychological assessment	Cal Confidential reports	Jordan Confidential reports	Lorry Confidential reports	Period Over 14 years
2. Healthy Food Choices (Marks & Sisirak, 2010) group training	Reflective food diaries over three weeks and healthy eating	Reflective food diaries over three weeks and healthy eating	Reflective food diaries over three weeks and healthy eating	20th February to 23rd April 2012
3. Food safety and you (FSAI, 2012) group training **Collaborative intervention design and group immersion training**	Workbook & certification by accredited instructor Cal	Workbook & certification by accredited instructor Jordan	Workbook & certification by accredited instructor Lorry	17th & 18th April 2012 Period
4. Individual's personal food preferences	Semi-structured Interview	Semi-structured Interview	Semi-structured Interview	April 1st 2013 for 15 minutes duration
5. I recorded daily events in my journal (30 pages)	Progress, personal and shared reflections	Progress, personal and shared reflections	Progress, personal and shared reflections	8th April to 24th of August 2013
6. Recipe design (Escoffier, 2003)	Collaborative consensus on foods to be cooked	Collaborative consensus on foods to be cooked	Collaborative consensus on foods to be cooked	10th April 2013
7. Assessment of baseline knife skills	2 minutes	2 minutes	2 minutes	11th of April 2013
8. Digital recordings of participants cooking	201 minutes of footage	205 minutes of footage	212 minutes of footage	11th of April to 23rd of August 2013

9. Lesson plans (Escoffier, 2003)	Planning with participants of recipe progression	Planning with participants of recipe progression	Planning with participants of recipe progression	15th April to 10th of May 2013
10. Chained food preparation sequenced task analysis for participants	Written & pictorial format with key-worker feedback	Written & pictorial format with key-worker feedback	Written & pictorial format with key-worker feedback	15th April to 10th of May 2013
11. Individualised DVD recording	Edited 6 minute copy	Edited 7 minute copy	Edited 7 minute copy	22nd and 23rd May 2013
12. Individual picture vignettes complied from 14 recordings **Progression of individuals training and support at home**	45 captured, analysed and logged digital examples of practice Cal	52 captured, analysed and logged digital examples of practice Jordan	48 captured, analysed and logged digital examples of practice Lorry	11th of April to 23rd of August 2013 Period
13. Visit & assessment of each person's home kitchen	40 minutes on 21th of May 2013	40 minutes on 18th of May 2013	40 minutes on 19th of May 2013	Prior to cooking at home
14. 12 minute digital recordings of participants' cooking assessment	5 recordings from their own home	5 recordings from their own home	5 recordings from their own home	22nd May to 23rd August 2013
15. Personal use of portable DVD player at home by participants with home support	Recorded use in their home by key-worker 8 times for a total of 112 minutes	Recorded use in their home by key-worker 9 times for a total of 137 minutes	Recorded use in their home by key-worker 10 times for a total of 150 minutes	30th of May to 12th of June 2013 recorded by key-workers
16. Digital recordings of participants final assessment	7 minutes	10 minutes	9 minutes	23rd August 2013
17. Written progression summary	7 records	7 records	7 records	11th of April to 23rd of August 2013
18. Assessment	Cooking at	Cooking at	Cooking at	11th of April

of sequential cooking analysis	home	home	home	to 23rd of August 2013
19. Interview following 12month period after completion of training	6 minutes	6 minutes	6 minutes	22nd of August 2014

Table 4.1 Evidential Path of Data Sources and Collection Methods from April 2012 to September 2014.

CAL

Prerequisites to Training

Cal is shy and will not initiate conversation but can express how he feels (Appendix, Z2). It was determined that his expressive language improved with encouragement and this stimulus had been highlighted at an earlier stage of his development in a performance report (Psychological assessment, 1984). A trainer in his early education had also noted that while Cal had been exceptional in learning certain skills he was never able to master the art of knitting (Psychological assessment, 1984). There was therefore a concern that he may never progress significantly with his cooking skills, if cooking was a task that he was unable to master? Cal said he liked baked potatoes (Food preferences, 01.04.13). He is well aware of the importance of eating healthily as part of a well-balanced diet (Healthy food choices, 2012). Cal is also extremely diligent in relation to safe hygiene and food safety practices (Food Safety Authority of Ireland, 18.4.12). He was enthusiastic to learn to cook (Food interview, 2012).

Group Immersion Training

Cal took part in an interview as part of a formal initial engagement in the research project. He was withdrawn during the interview but managed to express a desire to know how to cook at home (Food interview, 9.4.13). Cal preferred to write responses

to his key-worker's questions after cooking rather than reply to them orally (Food Journal, 12.4.13). Throughout the training programme I talked with the participants, key workers and house parents about problems that could occur. I focussed especially on problems they may encounter for the group cooking in general and also specifically such as tasks like "using the microwave oven" (Food journal, 22.4.13).

Cal self- generated verbal prompts with more difficultly than the other participants (Food journal, 19.4.13). Due to his quiet nature I was concerned that if Cal injured himself cooking he may not tell someone, so continual observation was necessary throughout the assignment to ensure his personal safety (Food journal, 12.4.13). Cal's self-expression increased over the course of the project and he talked more openly and became more expressive by the time of his final cooking assessment (Food journal, 12.4.13).

Cal had the lowest level of dexterity among the group in relation to knife skills. He could barely hold a knife properly (Food journal, 10.4.13). He did not chop a substrate such as parsley on a chopping board, but mimicked the action of chopping without contact with the food (Assessment, 15.4.13). Although Cal held the knife in his hand he did not make contact with the food item that he attempted to cut (Assessment, 15.4.13). Cal required training for three days of preliminary practise needing long basic training just holding a knife on the chopping board (Food journal, 15.4.13).

Cal especially benefitted from the early skills intervention because he was well able to master the skill of chopping, once he had sufficient time spent doing this action

continually (Food journal, 17.4.13). The process not only improved his ability but also built his confidence. He wanted to cook for himself, "I want to cook in my house" (Food interview, 9.4.13). Preliminary training for Cal was very successful (Assessment, 15.4.13). Each step in his training brought him closer to his goal. It was important to maintain and build upon each new step in his personal development progressively. In doing so Cal's knowledge, experience and proficiency increased over a very short period of time.

Cal's approach to cooking was like his demeanour, cautious, methodical and competent (Food journal, 24.8.13). He worked slowly to begin with but increased his tempo once he had a proper understanding of the task at hand. For example when he attempted to cut the lemon, he ensured the fruit was at the centre of the board, he stood at the correct distance from the table, cut surely and truly and maintained his fingers at a safe distance (M.F. Farrell, recorded video footage, 11.4.13, picture 10). The knives used were professional chef's knives as was all of the equipment, but they were not sharpened (Knife skills, 11.4.13). This ensured that if one person touched the knife edge accidently they would not cut themselves. To cut an item effectively with the knife one was required to apply significant downward pressure to the blade. This strategy was consistent with the concentration and focus required by the participants to engage with and perform their tasks safely and diligently (Baseline knife skills, 11.4.13).

Further on in Cal's basic knife skills assessment he found the cutting style which he had developed difficult to apply. On that occasion he lost his composure and moved the lemon incorrectly around the board in an attempt to improve his performance

(Baseline knife skills, 11.4.13). In the video vignette of basic knife skills Cal achieved his aim of slicing through the fruit, though the slices were of differing sizes, totally irregular in shape and not fit for purpose (M.F. Farrell, recorded video footage, 11.4.13, picture 11). Cal developed his dexterity and knife cutting skills through practice but needed additional time and guidance in comparison to his peers (Baseline knife skills, 11.4.13). There is further evidence of Cal's challenge cutting later on in his assessment where Cal primarily positions the knife in a way about to cut through some spring onion (M.F. Farrell, recorded video footage, 11.4.13, picture 12). Then when he attempts to execute the action, he moves the knife away from the desired cutting area and misses the onion completely on two occasions (M.F. Farrell, recorded video footage, 11.4.13, picture 13). So Cal's competency improved but he required additional training (Baseline knife skills, 11.4.13).

Progression to Cooking at Home

Following the completion of twenty-four training sessions by Cal in the restaurant kitchen and 8 cooking sessions in his home kitchen, Cal's progression is illustrated in his final cookery assessment. Cal's kitchen was small and compact but everything was situated in a logical fashion (Visit assessment, 2013).

Cal was the first of the group to cook (Food journal, 23.08.13). He was very systematic in his approach though he sometimes struggled to remember small aspects of a particular cooking sequence (Food journal, 23.08.13). As had frequently occurred previously in training Cal did not vocalise his overt prompts as well as he could have when cooking. This I determined reflected the struggle for him to generate overt

audible prompts. Cal recalled the procedure to put a potato into the microwave oven for the correct time period and setting (Video footage, 23.08.13, picture 132).

Cal also made a dressing and prepared his salad ingredients (M.F. Farrell, video footage, 23.08.13, picture 133). Cal cracked eggs neatly into a bowl for whisking and maintained his work area in a neat fashion (Video footage, 23.08.13, picture 134). He did not display the correct whisking action as in previous cooking sessions (Food journal, 23.08.13). Cal attempted to add eggs to a hot pan without oil. I guided Cal's hand off camera to the oil which he then added to the pan (Video footage, 23.08.13, picture 135).Cal spread the cooking oil evenly in the pan (Video footage, 23.08.13, picture 135). Cal had previously found adding the egg mixture to the pan challenging but in this instance he did so correctly (M.F. Farrell, video footage, 23.08.13, picture 136). Cal made a good omelette which was light and fluffy. The omelette had a runny soft centre and a firm exterior crust. Cal dressed his salad at the correct time. The salad items were cut neatly into bite size pieces, the dressing was smooth not oily and tasted piquant not sharp. Cal had cooked a good final meal. Cal had been assisted by me with some encouragement and modelling as he cooked (M.F. Farrell, video footage, 23.08.13, picture 137). He was happy and contented to have produced his meal to a high standard (M.F. Farrell, video footage, 23.08.13, picture 138). It was important that any guidance given while Cal cooked was modelled off camera and not recorded on his DVD. The process helped him to grow in confidence (Final interview, 22.08.14).

Jordan

Prerequisites to Training

Jordan had a number of different clinical traits that made her tire easily (Prasher, 1999). These manifest for her most particularly in the late afternoon (Psychological assessment, 1984). She was the most eloquent, attentive and enthusiastic of the group (Appendix, Z3).Jordan ate healthily and was aware of the virtues of exercise and a well-balanced diet (Healthy food choices, 2012). She liked smoked salmon as a treat (Food preferences, 1.4.13). Having trained 'front of house' in a restaurant she was also aware of good food safety practice (FSAI, 2012).

Group Immersion Training

Jordan really wanted to cook for friends (Food interview, 2013). Jordan had a basic ability to hold and cut with a knife though her dexterity improved following one week's tuition (Knife skills, 10.4.13). She gained confidence to perform tasks on her own. Jordan liked to work at her own pace. Occasionally she increased her speed to maintain pace with others in her group (Food journal, 10.4.13).

In the first video recording of Jordan she held the knife correctly (Video footage, 11.4.13, picture 6). Jordan cut the various pieces into multiple sizes as opposed to consistently sized pieces (M.F. Farrell, recorded video footage, 11.4.13, picture 7). Jordan positioned the knife methodically to perform the task perfectly (Basic Knife skills assessment, 11.4.13). Jordan's ability to master knife skills was restrained by her limited height (Journal entry, 12.4.13). Jordan had to lift her elbow back to cut objects which sat high up to her on the chopping board (M.F. Farrell, recorded video footage, 11.4.13, picture 8). Jordan's height was a serious disadvantage to her

throughout (Food journal, 11.4.13). Counter tops and cooker hobs were all at the standard height of 91 cm. Best practices would be to fit a height adjustable table in Jordan's home but there was not one presently there. Jordan overcame each obstacle successfully through adaption (Food journal, 2.5.13). At the end of the initial assessment Jordan successfully divided the tomato into four quarters (M.F. Farrell, recorded video footage, 11.4.13, picture 9). Jordan developed excellent culinary skills.

Progression to Cooking at Home

Jordan's kitchen was large and the microwave was situated on a work top opposite the other equipment (Visit assessment, 2013). Jordan demonstrated a good understanding of the task. She answered questions enthusiastically and worked efficiently. Jordan prompted clearly throughout her session. The following are the self-generated overt verbal prompts that she used. (M.F. Farrell, video footage, 23.08.13, picture 145).

"First I am going to do the potato, I will keep going with it and then put it in the microwave for five minutes. That's set for five minutes and then I am going to make my dressing. Ooops. It will go in then the honey and then I will mix up the dressing. Then I will put that right (fork correctly off board) then I will do my salad. Oh yes chopping knife (searches for knife in drawer of her kitchen). I will use this knife in any way. I chop up the lettuce. I keeping cutting this so I put that there (knife off chopping board correctly) then I put the salad in. Then I cut the scallions and I am moving my fingers away from the knife (as she chops). Now I put that there (knife off board correctly).This goes into the bowl (salad leaves).Then I will do the cucumber. I

and put that in (cucumber in bowl). I put that over here (knife off board correctly). And then I do the tomatoes and put them in as well" (M.F. Farrell, video footage, 23.08.13).

"I leave that there and I put that there (bowl for omelette) and crack the eggs… I am still cracking the eggs and another egg I am cracking……..keep going….put that there (empty shell). And then I am going to beat up the eggs…..and also I am going to put the smoked salmon in. Keep whisking it, beaten it like and that's that it ok now (beaten egg mix). *Microwave timer sounds*. "Yes that is properly done (beaten egg). I put that there (bowl beside pan) so I will not forget and put the oil a small bit of the oil (into pan) then I move it around and then I put fork here (at side of cooker) then I put egg (into pan) moving it away from me. And then keep moving it back and forward (beaten egg in pan), back and forward (beaten egg is cooked perfectly in pan). Then I keep scraping it (the egg in pan) to make a cigarette shape. Now I will flip the egg onto the plate. Then I bring the plate over (to the salad) then I mix up the salad (with dressing) then I put the salad in there (on the plate with omelette) at the side from it. Then I put that back there , then I get my baked potato, get my potato then cut the baked potato , then I get the black pepper and now I am going to have that for my tea tonight" (M.F. Farrell, video footage, 23.08.13).

Jordan added oil to the hot pan safely. She found the skill of turning out the finished product challenging, due to her height (M.F. Farrell, video footage, 23.08.13, picture 146). She was delighted with her progress (M.F. Farrell, video footage, 23.08.13, picture 147). Jordan always remembered to remove her knife from the chopping board when not in use (M.F. Farrell, video footage, 23.08.13, picture 144). She also

described in detail how she held the knife away from her fingers when cutting (M.F. Farrell, video footage, 23.08.13, picture 145). Jordan said she was going to have the meal she prepared for her tea.

Jordan retained the most information from the previous session and relayed it back to her peers nonchalantly. Jordan makes eye contact and listens to me 5 times in the space of two minutes (Video footage, 15.5.13, picture 53). She is first to answer the question on what to do with the potato? (Video footage, 15.5.13, picture 54). Jordan answered 6 questions correctly in quick succession (M.F. Farrell. video footage, 15.05.13). Jordan has learnt culinary arts skills in a fixed time period, managed to transfer of skills to her home and replicated their use after a lapsed period of 10 weeks. This was a considerable achievement for someone to complete in such a short time (M.F. Farrell, personal communication, 23.08.13).

Lorry

Prerequisites to Training

Lorry had overcome considerable clinical challenges especially in her early childhood (Fudge, 2002). She grew into a confident and eloquent adult (Appendix, Z 4). Lorry enjoyed salads but did not like onions (Food preferences, 1.4.15). She regularly made healthy food choices in her diet (Food choices, 2012). Lorry also grasped the basic elements of food hygiene (FSAI, 2012).

Group Immersion Training

In relation to basic knife skills she was the most competent among her peers (Basic knife skills, 12.4.13). She liked to mother her colleagues though she was also easily distracted (Food journal, 12.4.13). She could fix a chopping board securely on the table (Journal entry, 10.4.13). Very often Lorry's peers watched and copied her (Assessment, 11.4.13). She demonstrated her potential to peers in the early stages (Food journal, 12.4.15). Basic knife skills' training was carried out twice daily for 30 minutes over two days (Basic knife skills, 12.4.13). Lorry was comfortable using a chef's knife. She grew in confidence (Assessment 11.4.13). Lorry stood too close to the work bench and held the lemon incorrectly (M.F. Farrell, recorded video footage, 11.4.13, picture 1). As she progressed she worked more safely. She held the lemon correctly (M.F. Farrell, recorded video footage, 11.4.13, picture 2). Lorry sometimes moved her forefinger to the top of the blade edge (M.F. Farrell, recorded video footage, 11.4.13, picture 3). She stopped that action in later cooking activities (Food journal, 17.05.13).

Lorry moved the blade cutting the spring onion. She did so in further recordings (M.F. Farrell, recorded video footage, 11.4.13, picture 5). Towards the end of the activity Lorry held the tomato, using her initiative to cut it into quarters not as she had been shown but in quicker fashion (M.F. Farrell, recorded video footage, 11.4.13, picture 5). She was thinking about ways to enhance her performance (Food journal, 11.4.13).

Lorry developed very good cooking skills (Food journal, 17.05.13). She strengthened the group rapport by giving her companions guidance (M.F. Farrell. video footage, 16.05.13). She took each task seriously (Food journal, 17.05.13). Lorry leads the group and narrates clearly to her peers (M.F. Farrell. video footage, 17.05.13). In one particular session everyone finished piercing their potatoes but wait for Lorry to follow her lead (M.F. Farrell, video footage, 09.05.13). Lorry beats eggs in a bowl and shows peers how white and egg yolk are incorporated together (M.F. Farrell. video footage, 15.05.13). Lorry set the pace and slowly her peers' performance quickened to match her (Food journal, 19.4.13). She was neat and tidy. Lorry washed the fork she had used for one task before beginning another (M.F. Farrell. video footage, 17.05.13). Lorry worked meticulously.

Lorry was the first person to be recorded on video. The video camera made all participants a little nervous first time out on Thursday 11th of April 2013. Lorry remained calm and confident throughout the session. Her peers are seen in the background taking note of her performance (M.F. Farrell. video footage, 17.05.13). The following narrative details aspects of Lorry's performance in her final cookery assessment.

Progression to Cooking at Home

Lorry set out her bench in an organised manner. Her kitchen worktop was considerably more compact than the ones she had trained on in the restaurant. She worked carefully concentrating on every aspect of the meal in perfect sequence (M.F. Farrell, video footage, 23.08.13, picture 140). Lorry did not place her knife on the chopping board when not in use (M.F. Farrell, video footage, 23.08.13, picture 141). She learnt to self-generate overt prompts more consistently than the other participants. Lorry managed to put the beaten egg mixture into the pan safely (M.F. Farrell, video footage, 23.08.13, picture 142). Lorry was very proficient and presented an excellent meal (M.F. Farrell, video footage, 23.08.13, picture 143).

Coding and Thematic Analysis

Scrutiny of the above narratives as case studies occurred continually through AR. The process occurred as continual spirals of training, evaluation and reflection. Looking at the totality of evidence through cross case analysis findings reflect the importance of experiential education (Dewey, 1938). The process was emergent as the participants built their skills base. Data analysis occurred through the decryption of codes represented as images and artefacts in the above table 4. These included all interviews, feedback from key workers, personal assessments, food preferences, recorded performance data in the food journal, digital recordings of basic knife skills training, assessment, group cooking sessions, cooking in each person's home and specific pictures taken from digital recordings to typify specific behaviour were used in the construction of codes. Coding was the first step in the decryption process. It was an exercise in organising each of the above data categories into meaningful units (Dick, 2014).

The exploration revealed set patterns of phenomenon from which I developed themes. Rather than being in essence a list of comparisons the examination required a thoroughly descriptive examination of the participants' immersion in training to reflect their experience and built knowledge (Stake, 2006). Each participant contributed to the overall picture from their own personal perspective.

From cross-case analysis the evidence proposed four themes that were compatible across the three peoples' narrative taking part in the project.

The themes were the role of food appreciation in culinary arts education, the importance of developing a learning network with students, the enhancement of self-regulation learning through new technology and the power of overt auditory self-prompting as a teaching strategy in culinary education.

The following demonstrates how themes were identified in the research and also how the investigative approach adopted by the project answered questions and objectives outlined in the introduction. The introduction chapter included aims which aspired to include participants in the research through:

- Full inclusion, consultation and goal setting in their person centred process
- Access to and development of one's own personal field of interest
- Promotion of self-governance over one's own diet
- Enhancement of life skills through gastronomy
- Collective decision making in menu planning
- Group training activities towards shared goals negotiated by personal endeavour

- Leading to greater levels of independence in one's own home, family home or group home manifest through cooking for oneself and or peers
- Presenting greater potential for real life engagement in community activities/community presence

The Role of Food Appreciation in Culinary Arts Education

The literature review determined that evidence based best practice for training adults with moderate ID in cooking was historically through ABA (Alberto & Troutman, 2009). ABA methodologies in those instances indicated that training was most usually delivered by an adult. SI through ABA was deemed to be an important means of training but failed as a strategy to address important issues such as the quality, sensory values, and aesthetic traits of foods or collaboration with participants in their culinary training. Training therefore did not permit students to engage in self-instruction or self-directed learning mediums. Students could not self-generate motivational tools such as prompting and were dependant on externally generated antecedent strategies. Another generated prompts and students were encouraged to produce the correct response. Students were not consulted about what they cooked and training outputs were basic generic foods such as popcorn. No reference was made to the quality of these outputs in terms of aesthetics or sensory values in the literature review. I believe these omissions to be imperative components of culinary arts training and that everyone has a right to good quality healthy foods.

Consequently in this project the individuals' interest, appreciation and enjoyment of the food they cooked informed, motivated, demonstrated and calibrated the level of their performance. This occurred throughout the course of the programme beginning

by participants expressing how food makes them feel or how it contributes to their mood. This collaboration was followed by their empowerment to take control of their own diet. Students exercised self-determination skills associated with their self-discipline while dieting for themselves (Food choices, 23.4.13).

They subsequently participated in food safety training and were exposed to the stringent levels of diligence required by people working within the culinary arts field (FSAI, 18.4.13). At interview this rigour was further expressed to participants in terms of their own homes. They were asked about their personal food choices and why they were important to them. They provided feedback in relation to how treats were used on occasion to change people moods. Video footage demonstrated the level of focus which the participants engaged in to create dishes which were worthy of their friends merits and review (Food journal, 23.8.13).

A spontaneous spirit or community of practice developed among the participant group, their peers, key workers and friends. This informal unplanned support network informed participants in their understanding of how food should look and taste. Opinions and impressions were shared informally by peers through feedback and discussion (Food journal, 24.8.153). Further into their training programme when the participant group dispersed to cook at home there was significant evidence of the levels of satisfaction they experienced (Video footage, 23.8.13). The phenomenon was not outlined by other researchers in similar fields of culinary education. It became apparent over the course of the study that the group really enjoyed cooking and eating at home.

Cooking is an art that requires discipline and focus. Cooking for friends improved each participant's discipline. It encouraged them to focus accurately on their organisation, preparation, execution, seasoning, taste, presentation and timing (Food journal, 24.8.13). Tasting enabled participants to correct seasoning, explore different textures and build their recognition of flavour. Jordan said "her lunch was just right," Cal said "OK delicious," Lorry said her lunch "was perfect" (Food journal, 18.4.13). After each cooking session the food was distributed among friends. Good cooking is about many tasks carried out accurately in time and in the correct sequence. They are essential components in the correct application of culinary art skills.

Presentation and sensory evaluation are also important components and especially difficult skills to teach. Lorry brought an omelette from the kitchen for her friends. It was shared with them. Everybody wanted to taste a piece. They gave feedback to her (Food journal, 19.4.13). Intriguingly the participants' peers really enjoyed eating what was cooked. This reinforced the value of each training activity as the group experienced satiety (Food journal, 19.4.13). The food was reward for action, changing mood and providing stimulus. The sharing process developed into an important form of peer appraisal. Recognition of their progress by peers strengthened the bond in the group. Jordan said she was "very happy with her achievement" (Food journal, 19.4.13). Praise from friends was really important. Jordan really enjoyed the experience (Food journal, 23.4.13).

Playing back the digital recordings of each member of the group cooking also helped reinforce their skill capabilities. It was real evidence of their culinary abilities

and progress. Jordan could not stop replaying the recording again and again. She laughed out loud clapping and smiling (Food journal, 11.4.13).

Maslow (1943) as defined in the literature review recognised food as a primary motivator satisfying physiological needs for humans. In this project the power of food fulfilled much higher values as it increased each person's self-esteem. Participants now possessed the knowledge and alchemic ability or power to offer artistic sustenance to a friend through cooking and this sharing satisfied their social needs (Douglas, 1972).

The Importance of Developing a Learning Network with Students: Working collectively together with students to help them fulfil their wishes. The approach is in contrast to the exclusive use of ABA training most usually applied for people with moderate ID. In this instance ABA was interwoven within the framework of a more eclectic intervention. This project adopted a more holistic approach encompassing many more elements of educational theory which were applied in practice. I assimilated positive aspects of learning theory that reflected a positive approach to hands on training for people in a group setting from Lewin (1946), Wenger (1998), Piaget (1952), Vygotsky (1962) and Dewey (1934) and applied it to my intervention. In the construction of this approach I also acknowledged Bandura (1971) for the power of learning generated by participants through group involvement and through vicarious experience. Elements of the regimental systematic learning style identified by Pavlov (1910) and Skinner (1938) were also identified as a core component of the intervention. The application of AT proved to be a very effective means of training. It assisted the group to understand how each task carried out in the correct sequence contributed to the complete meal. Collectively they improved or deepened their

understanding of what was going on (Dick, 2014). “Today we had a meeting to discuss how far we have come, looking back at your progress, everybody had been nervous to begin with but are now more confident” (Food journal, 20.4.13).

Lorry was the pace setter and matriarch. Cal was the watcher and observer who grew in confidence with peer support. Jordan was the quiz contestant with perfect recall. There was the emergence of a positive spirit of collective participation in the group which was not present at the beginning of the project (Food journal, 30.4.13). Jordan smiled really widely, laughed out loud then looked to her colleagues for approval. She clapped her hands when her section of the digital replay was finished (Food journal, 30.4.13). Lorry pointed and gestured a nod to Cal. She moved her head nearer to the screen to get a closer look (Food journal, 30.4.13). Participants unconsciously developed their COP to meet their needs providing each other with support and encouragement. Participants taking part collaboratively with me created their own collective meaning of what was important to them (Kubiak et al., 2012).The synergy and collective enthusiasm which developed within the group reflected a real community as defined by Wenger (1998) in the literature review. Together we collaboratively built our COP (Lave & Wenger, 1991).

Each participant began their training as individuals who did not regard their co-participants as close friends but we built a strong collective bond of support, encouragement and mutual respect (Food journal, 24.8.13). Foremost among our community’s values were those of participation and empowerment. Trust and mutual respect for each other developed enabling flexibility and responsiveness (Dick, 2014).

Collegiality in the group was a significant motivational factor for all. The preparing and sharing of meals also proved to be highly motivational.

A significant output of training was the number of cooked meals produced by participants in all training locations. Approximately 90 meals were produced over the duration of the project. This did not occur or was not mentioned in previous studies for people with moderate ID learning to cook. Cooking, then sharing really reflected an alternative dimension to ones participation in a shared meal or synergy associated with a gastronomic experience as opposed to just a scientific experimental output (Douglas, 1972). Each meal cooked in succession synergised into a trio of lessons. On training days every participant prepared an omelette at lunch time for their peers with salad (Food journal, 24.4.13).They learnt from each other's mistakes while trying to keep up with each other's progress (Food journal, 24.4.13). The value of each participant's contribution to their learning community was acknowledged through an AR paradigm as they each had an equal voice and an equal part to play in the process (Wells, 2009).

Kubiak (2012) and co-researchers defined what was important for students with ID collectively participating in further education. Students generate their own personal meanings when they are given the opportunity, time and space to grow (Food journal, 24.8.13). The participants contributed to a real community of practice and collectively developed helpful relationships through engagement with each other. They collaborated and learnt in a secure, safe supported learning environment which promoted collegiality (Kubiak et al., 2012).

For the participants collectively visiting their homes and cooking for each other strengthened bonds of friendship and mutual respect (Food journal, 24.8.13). The visitors were made feel valued and welcome by their host. This networking was not planned or devised in the research design but evolved organically. Participants shared mutual praise between each other though their critique of each other's work diminished significantly when they cooked at home (Food journal, 29.4.13). All the participants said "they preferred to cook at home as opposed to in their training kitchen" (Food journal, 24.8.13). The transferability of culinary skills from ones training environment to another is difficult. All participants successfully managed to transfer their cooking skills to home (Video footage, 29.4.13). Self-instruction occurred when participants watched themselves cook. A record was kept by their key worker each time they played their personal DVD recording (Individualised recordings by key workers, 23.5.13). Using Cal as a sample candidate, during a previous recorded cooking session he became more focussed on his peer's recorded cooking performance than on his own (Vignette, 29.4.13, picture 21). Cal assisted his colleague while she cooked without being asked (Video footage, 29.4.13, picture 24). As the bond between participants strengthened they shared collective meaning. Their synergy gave them greater confidence to cook at home alone.

The Enhancement of Self-regulation Learning Through New Technology

The literature had previously identified the importance of SD as a human right for adults with ID participating in education (Wehmeyer, 2011). Self-advocacy, self-directed learning and self -instruction was also recognised as the most appropriate mediums for these adults' participating in training. These strategies promoted learning which was appropriate, ethical and proper for adults to engage in as part of

their PCP (Buchanan & Walmsley, 2006). I believe it is imperative to seek record and demonstrate self-regulated learning of people with ID specifically for those with moderate ID who may be considered incapable of self-regulation. PCP encourages learning outcomes devised by the person themselves and represents a strong motivational force in their application and success (Brewster & Ramcharan, 2005).

On their own participants would have been unable to read recipes, follow written instructions and record their progress. Digital audio visual media enabled these activities to happen for the participants when and where they wanted at their discretion. It offered students a personal means of self-regulation through self-expression, self- modelling and self-prompting to self-instruct. The practice of self-discipline by participants towards a personalised goal fulfilled SD needs. It was important that participants were supported to exercise and satisfy their own needs by themselves. They seized the chance to take charge of their diet and plan meals in advance of dining (Food choices, 23.4.12). This was a personal departure from previous norms.

Digital pictures, recordings and vignettes were all used as teaching tools for participants' instruction as part of their pre-requisite training. Audio-visual media appealed to them and helped them learn from themselves through vicarious experience and overt auditory self-prompting (Food journal, 2.4.15). It provided a means of self-instruction for people who had no literacy skills. Technology provided students with exemplars of practical work based food practice for playback and discussion. The recording and playing of personalised discs by participants were significant milestones in their progression (Accompanying discs 1, 2 & 3). The discs

were technological teaching tools and a record of their achievement. They shared the footage with their friends, staff, key-workers and housemates (Food journal, 19.4.13). Jordan and Lorry then struggled with training for the next few days. It was challenging thereafter to progress further with training as the edited footage portrayed a perfect exemplar of each person cooking and not the true reality of their progression (Food Journal, 31.5.13).

The participants could choose the time and place to learn. They watched and listened to themselves to learn. A record of the number of times the disc was watched by participants was drafted by key-workers and repeated use enhanced each person's final performance proportionately. The more each participant looked at their personal disc the better they performed in their final cooking assessment. Cal looked at his disc personally 8 times at home for 112minutes overall, Jordan looked at her disc 9 times over 137 minutes and Lorry watched 10 times over 150 minutes. One could not say categorically that time spent watching each personal disc by the participant was directly responsible for the final culinary arts skills they achieved. There was however a distinct correlation between the time spent by each participant looking at their personal disc recording and the level of their final culinary assessment.

By their final cooking assessment Lorry and Jordan cooked at a slower more purposeful pace than Cal. Cal was also not able to continually generate overt auditory self-prompts as freely as his peers (Table 4.11) and worked in a much quicker but less pre-meditated fashion. The reason that Cal found tasks more difficult could be because he spent less time watching his personalised DVD disc at home in the second phase of their training than his peers (Table 4.14). The learning outcomes for

participants were therefore directly proportionate to the amount of time they spent in self-regulation of learning at home through new technology. Technology made possible self-generation of instruction (Food Journal, 31.5.13). Cooking in one's own home became the ultimate personal expression of self-governance and independence.

The Power of Overt Auditory Self-prompting as a Teaching Strategy in Culinary Education

As participants' self-confidence grew, so too did the power of their inner voice. At the beginning of the project participants found it difficult to describe what they were doing cooking (Food journal, 20.4.13). Lorry had difficulty describing her actions in words (Food journal, 19.4.13). Slowly as their understanding and confidence grew all became more vocally descriptive. At the same time as they cooked I asked them to articulate what it was they were doing. As their skills competency improved so did their verbal-prompting proportionately to their new skills level. I interpreted this to mean that students could not describe what it was they were doing until they felt confident doing it. So Cal could only say he was chopping the lettuce when he was competent at it. Prior to mastery it seemed as if he could "not fully articulate what he was doing as he was too busy concentrating on performing the skill proficiently" (Food Journal, 17.04.13).Self -prompting and self-talk are actions that we employ everyday subconsciously. Jordan seemed to understand the reason that self-prompting was important to her at home. Jordan can appreciate the benefit self-instruction. She said "it was like being your own chef or having your own television programme" (Food journal, 10.5.13).

Language provides a simple method of self-regulation to improve learning. Self - generation of language overtly that describes what is happening when cooking is more useful and practical to self-learning than books or lectures. When participants had to describe what they were doing overtly, through self- generated prompts, the creation of their own descriptive vocabulary seemed to act as a brake on their miscalculations. Full articulate overt auditory prompting by each participant was critical to their comprehension of their DVD recording when played at home alone (Food journal, 10.5.13). Their actions became more purposeful, targeted and pre-meditated as they took greater personal responsibility and control over what they were saying and doing (Food journal, 20.8.13). Performance slowed down to the speed at which each persons' prompts could be generated to describe action and their individualised pace suited their improved performance. Verbal prompts from their personal verbal repertoire self- guided their actions (Wells, 2009). Each individual's progress was clearly reflected through the eloquence of their overt individual narrative. "I could see how much they knew by what they were saying" (Food journal, 21.8.15).

Over the course of the project Cal was the least expressive, which made prompting for him continually difficult but it did not bar him from participation. Networking with his peers through culinary practice improved Cal's self-expression significantly and while this was not a pre-planned objective it was good for him. In group cooking sessions Cal started answering my culinary questions and was no longer willing to remain in the background or keep silent (Food journal, 29.4.13). Cal spontaneously answered questions in the footage (M.F. Farrell, recorded video footage, 29.4.13, picture 23). I asked "what type of shape do we need to create in the pan with the

beaten eggs to create an omelette?" Cal said "a cigarette shape" (M.F. Farrell. video footage, 7.05.13). I asked "before we start chopping on the board what do we have to do?" Cal said "put a cloth under the board" (M.F. Farrell. video footage, 17.05.13). I asked "what do we put with the dressing?" Cal said "salad" (M.F. Farrell. video footage, 17.05.13).

The learning environment also impacted on participant's self-confidence in their culinary education. It became easier for them to self-prompt at home. Proof of this is mostly evident through digital recordings which reveal that the participants cooked with more confidence at home. Jordan became more controlled; she became more relaxed and confident cooking at home (Video footage, 22.05.13). Cal developed his own personal cooking sequence not previously taught (Video footage, 23.05.13). Lorry cooked at a quicker, relaxed and purposive pace (Video footage, 23.05.13). Participants' increased self-confidence in their home was also reflected by how they adapted their cooking. The complexity, variance and application of culinary arts skills by individuals in the course of their training enabled them to develop and execute individualised methods, styles and recipes that best suited their needs.

Individuals

All of the above themes were salient across case studies; however there were other qualities that were specific to each individual. The purpose of this investigation was to value and record those differences. The three distinct qualities were for Cal; the speed and dexterity which he displayed once he had gained mastery of basic culinary skills, Cal's new knife skills are apparent in this class. Now he is familiar and experienced in the task and he carries it out quickly and meticulously (Food journal,

15.4.13). Jordan displayed clever consistent recall throughout the project and continually helped peers to learn by answering questions correctly (Food journal, 16.5.13).

For Lorry the skill and care she displayed mentoring, supporting and critiquing her peers was kind and beneficial to their progression. Lorry produced a fine dish which could grace any table using healthy nutritional ingredients which took only 20 minutes to prepare. All Lorry's peers garnished their plates identically to her. She led the way and made it conceivable for them all to succeed (Food journal, 19.4.13).Through endeavour her expression becomes self-instructional on her personalised DVD disc (Video footage, 23.05.13).

For each participant the challenge of self-generating prompts enabled them to exercise and regulate their self-instructional power. I collated and combined multiple sources of information in data collection to portray an in depth detailed reflection of what had occurred in each person's development (Creswell, 2009). I endeavoured to determine a true picture of the phenomenon under investigation as it occurred and how it was portrayed. I tried to follow a fundamental case study portrayal of the investigative process incorporating context, the issues and the lessons learned. And through emergent multiple studies accurately develop a more concise informed level of understanding.

Summary

The following findings are the result of my research with adults with ID and reflect my belief from adult pedagogy that we can be empowered to take more responsibility

for our own education. Ultimately personal realisation and acknowledgement of our own innate power should enable us to realise our full potential. The participants became aware of their innate power of learning because their progression was revealed to them using AT. This medium was accessible, comprehensible and important to them. They watched their skills develop vicariously as they progressed from training in primary knife skills to cooking. The medium gave each participant vicarious feedback and supported peer review. They watched themselves develop and grow in confidence. Their greater confidence improved the quality of the continual feedback provided by participants to their key-workers. Through the research methodology this narrative in turn improved the composition of the subsequent cookery lessons. AR is distinguished from other research by three characteristics which are that the research is action oriented, that is intended to produce research informed change, to address the live issue of participants' taking part in the project (Van Manen, 1990). Unlike previous culinary arts education outlined in the research literature this project involved collaboration with people with ID providing a holistic approach to training as a means to satisfy their desire to cook in their own home.

Ayres, Mechling & Sansosti (2013), Mechling & Collins, (2012) and Mechling, Gast & Gustason, (2009) have all demonstrated the use of AT as an empowering tool to teach new skills to people with ID. What they did not reveal was the overt enjoyment or personal fulfilment that the participants in this project discovered using the audio visual medium themselves. They demonstrated clearly the effectiveness of VM to transfer intricate systematic chained skills to others. They failed to identify and disclose evidence of people with moderate ID engaging in peer review, peer modelling and self-regulated learning.

Simply from a training perspective the technological benefits of VM and VSM through AT proved to be very motivational for participants. They enjoyed the attention and the challenge of cooking for their peers. As the participants' skills and repertoire grew with the help of picture recipe cards, modelling, coaching and key worker support, they grew in confidence. The level at which the participants engaged in the study was consistently very high. They wanted to achieve and set themselves very high standards. Self-efficacy is probably the most important skill a student and cook can exercise in the practice of culinary arts because no matter how talented one is, things will always go wrong. We need to be able to take a step back and think about how we can improve next time without focussing too much on the negative. "Previously the participants had cooked as a group when they began to cook individually it was difficult to keep everyone focussed on the person cooking" (Food journal, 26.4.13). Mistakes such as missing a sequence in the chained order of tasks usually occurred when participants were trying to rush their work or because they were not fully focussed on the work at hand. "Cal missed a sequence by adding salad to a bowl without dressing but then back tracked (Food journal, 25.4.13)." Each time a participant made a mistake in their cooking sequence it was most usually corrected by them without direction from me.

There is room for new approaches in contemporary education and this intervention encompassed a new design methodology for culinary education. If the students had not learnt how to cook, chop or serve food it was still important and ethical that they enjoyed the experience. As much would have been learnt from their failure as was in their success. They all said they enjoyed the experience; it was worthwhile and beneficial to them in their everyday lives. One year on and Cal cooks for himself at

home: “my favourite meal is chicken stir fry,” Jordan cooks “an omelette for herself on Saturdays” and Lorry “prepares meals regularly” (Final interview, 22.6.14).

Practical cookery education is more valuable when it has an end goal which can be applied to oneself as opposed to others such as customers in a restaurant. The process evolved into a personal journey of self -education. Self-generated cues and prompts helped the students to take control of their learning. When practised with discipline they became self-instructional. Vygotsky realised the potential inherent in every individual as their inner voice, allowing students to exercise their voice demonstrated to them the power they have over their work. Technology ultimately reinforced this power and demonstrated its potential; their learning transformed how they can participate in our world. The democratic faith in human equality is belief that every human being, independent of the quantity or range of his personal endowment, has the right to equal opportunity with every other person for development of whatever gifts he or she has (Danforth, 2008, p.46).

CHAPTER 5

Reflection on Disability Policy

This chapter illustrates the conclusions, recommendations and my reflection distilled from this research. These themes have developed from collaboration with participants, their peers, key-workers and house-parents over the duration of this project. The narrative begins by providing a greater insight into the lives of a sample of people with ID working/ training in day activation centres in Ireland today.

Irish disability policy has clearly had a positive effect on the lives of people living in care as accurately demonstrated in the introduction to this project. The fact that people were historically taken away from their families and put into care means that policy now attempts to redress their incarceration. Policy provision has played an important role in liberating people with ID from marginalisation in society. There is however so much further to go and this study offers a reflection on what can be achieved particularly in regard to honouring peoples' rights especially their working rights. I also acknowledge the complexity and challenge faced by those attempting to bring about change. I offer an insight in to my experience in collaboration with participants over the course of this study and highlight some dilemmas encountered.

This study was primarily designed with a view to assisting culinary arts skills yet the process unearthed significant data about disability policies which impacted on the lives and freedom of the participants. For them as children their social categorisation exerted a powerful influence on their quality of life, their education and opportunities.

This is not to say that they did not lead happy lives but to acknowledge that the lives they lived were with lesser freedoms.

This theme is still true today and perhaps the most pervasive denial of opportunity has been equal opportunity within workforce and community settings (Ore, 2000). Currently people who train/ work in sheltered occupational workshops/ community enterprise/ activation centres are not imbued with the same rights as workers in mainstream enterprises (NDA, 2009). Often they receive no reward for skills or services provided. Historically some received an allowance for their work duties but not the minimum wage. Many allowances were taken away from service users by SP during the last economic downturn in Ireland (Browne, 2016). This omission or denial reinforces the need for exploration and analysis of experiences of people influenced by marginalised discourses (Petersen, 2009). At the same time this study demonstrates the significant challenges faced when attempting to work with people with ID in research. There are many hurdles to negotiate and I acknowledge my belief that ultimately training for people with ID should be primarily focussed on programmes that interest them and to which they contribute to the overall design. Only effective evidence based research working with people with ID can accurately determine the most applicable and ethically appropriate means to do so.

The Aim of the Study

Participants in this instance collaborated in their intervention to promote their independent living skills. Collaboration enabled them to experience competency through greater self- reliance and independence (Dollar, Fredrick, Alberto & Luke, 2012). The approach involved collaboration between participants, friends, key-

workers, house parents and researcher to focus on culinary training skills while maintaining the discipline and ethical boundaries of special educational research. Training took place primarily in a group setting followed by home tuition. Together collaboratively, the participants and I designed a cookery course which facilitated the development of culinary skills through technology that they could apply at home. The participants proved that given their desire and enthusiasm, they could cook at home for themselves and their peers.

This project demonstrated the innate learning potential of people with ID. All of them displayed abilities to a level that I had not anticipated and to such an extent that I had to re-evaluate how I may have viewed people with an intellectual disability. How I may have in some way contributed to a lowering of their personal life expectations for themselves? I now concur with Freire (1970) that what we need in society is for a pedagogical shift which requires all educators to adopt teaching as the practice of freedom. There is a conflict between providing greater freedom and maintaining the status quo. "The conflict is one of whether what we know, who knows, and what we use our knowledge for is about the selfish accumulation and protection of knowledge, power and wealth by minority elites, or whether societies develop and use knowledge for a fairer and more sustainable world for all" (McNiff, Lomax and Whitehead, 2003, p. 1).

The literature review determined that while behavioural theory recognised the extrinsic motivational force that stimuli may exert on students, behavioural theory identified the innate powers of adult learners. Intrinsic motivational force was determined to be a significant driving factor in the development of self-efficacy and

self-determination (Deci & Ryan, 1985). The review determined that self-modelling, self-prompting, self-instruction and self-regulation were appropriate strategies for learning for adults with ID in this instance. The project reinforced the importance of creating a respectful learning environment and COP where learners could learn from each other as adults. Previous literature generated by adult learners with disabilities at Trinity College also managed to translate these important parameters that were required to facilitate learning (Kubiak, 2013). The study reinforced to me the critical importance of the relationship between the student and tutor (Kubiak, 2013).

The project challenged participants to bring about positive change in their lives. I found it difficult to find one single educational theory which would satisfy the needs of the participants. Each participant's detailed narrative and my graphic illustration of their progress made theoretical underpinnings come to life. I wrote honestly in the first person (Koshy, 2005).Writing in my own personal style about each individuals' journey and experiences was important to the overall credibility and authenticity of the project (Koshy, 2005). Descriptive detail involved the accurate portrayal of each individual's background, specific ID, education, illustration of places where they lived and trained and events that happened in their lives (Creswell, 2009). My vivid AR focus improved the investigation's validity so that results were richer, practical and more realistic. There is a belief that deep changes in practice and real change may only be brought about by those closest to it (Cochrane- Smith & Lytle, 2009).

The qualitative approach to the project enabled the voices of the participants with the support of their key workers to clearly resonate throughout the study. In particular the case study strategy honoured each person as an individual with their own

significant narrative not just a label or representative of a particular ID group. Case studies can inform social network analysis and establishes the basis for a theoretical framework that explains how knowledge transfer, learning, and social structure are related. Case studies demonstrate how "field methods, which furnish rich and plausible data for new theories about how different types of learning and knowledge transfer occur" (Uzzi & Lancaster, 2003, p.384).

The description of the evolution of disability policies in the first chapter really contributed to the portrayal of the reality for those people with ID living in care over the last 50 years. Government policies determine how systems and perceived rational supports can be assembled to validate our defined social category in the culture at play and our place in it (Ore, 2000).

The study was a very small insight into the realities at play in people's lives with ID but given that each person is so unique it would be naive or fool hardy to try and portray a larger cohort. The three people offered different perspectives but showed the value of engaging in mutual support towards a shared goal. The onerous data collection beginning with reports of the participants from an early age complimented by audio visual digital recordings and interviews gave the project scientific rigour and credibility.The research design was an eclectic strategy which incorporated evidence based findings from the literature review. The intervention moved from the classical conditioning mode of behavioural theory where people were taught through behaviour modification. Task analysis in the realm reflected a modus operandi which led to skills development (Drasgow et al., 2011). ABA was identified as a successful

means of delivering education particularly to people who have communication difficulties (Alberto & Troutman, 2009).

Approach

The value of observational learning transcended all learning theories and was particularly relevant to those with literacy deficits. Vicarious experience proved to be a significant stimulus for the participants in the studies analysed. Antecedent strategies though of behavioural origin were applicable in all learning domains. They were especially useful in the context of SLT where modification recognised the phenomenon of inner voice, whereby the student was encouraged to give voice during skills training through overt prompts.

Constructivism acknowledged the value of doing not only for the output but the process itself. Doing resulted in the production of experience that was enriched by the presence of others and ultimately led to the creation of new knowledge. The place of learning was fundamental to cognitive activity. It was recognised as being distributed between people, the environment, objects, artefacts and the communities that they are part of a reflected situative perspective (Greeno, Collins & Resnick, 1996). Situativity acknowledged the importance of place in the training context and the motivational force that it generated. Most significantly with the progression of research methodologies learning objectives for students have also transcended from the practical realms of domesticity to ones which facilitated their self- actualisation. Participation in cultural events is a strong instrument in the promotion of social inclusion. Culinary art is a valid form of self-expression through which the student can express their identity and culture. Community learning raises self-value, breaks

isolation and improves the abilities of individuals to learn by experimenting and engaging through active participation (Varbanova, 2011).

A number of means were devised to encourage participation and give participants the means to articulate through action and voice their impression of their learning experience and feedback. Learners in a group represent communities that over time develop their own identities or ways of being with interaction that may not be understood by an outside observer (Wells, 2009). The study was conducted in a collaborative format which was deemed an essential element for the promotion of health and wellbeing for people with ID (Walsh & McConkey, 2009).

For students to fully engage in the transformative dimensions of adult learning they were empowered to change their beliefs and attitudes and "engage in critical reflection of their own experiences, which in turn leads to a perspective transformation" (Mezirow, 1991, p. 167). Supported learning from agents in a democratic community including house parents, key-workers and peers accelerated the development of new skills and knowledge. The characters within a knowledge making community reflect and perpetuate the beliefs of the community (Wenger, 2008). The rationale to involve other people in the monitoring process helped make collecting data more disciplined. The collaborative strategy involved critical friends who were required to develop a critical perspective-rendering the familiar strange (McNiff, 2013).Co-operation and collaboration are integral to AR (McNiff, 2013).

The process reinforced the value of a supported learning environment in the delivery of instruction to students with ID (Drasgow et al., 2011). We now know what self-

regulation of learning is for these individuals, what learning as collective meaning means to them and how they can self-regulate their own learning (Kubiak, 2013). Yet the fundamental aspects of their lives such as cooking their own meals are still the most important to them. Many people in mainstream society cannot cook. Culinary skills development is challenging. Learning strategies which facilitate skills application, mastery and transfer were required. To assess and teach cooking skills I prepared easy to follow instructional materials which encouraged student's self-instruction (Browder & Spooner, 2011).

Picture recipes used historically to facilitate self-instruction were combined with new digital technologies including portable DVD players that gave students greater control over their learning (Mechling, Gast & Fields, 2008). Together they succeeded in bringing adult learners dreams and aspirational learning to reality (Bowman & Plourde, 2012). The proposition presented a valid rationale for a teacher through qualitative research to open a window in this field using practice as inquiry (Cochrane Smith & Lytle, 1990). The collaborative process between students, their carer's and researcher further enhanced their self- efficacy and self-determination.

Methodology

This investigation reflected the real experiences of three people enabled to cook at home for themselves. It presents an insight into the challenges and support that they encountered training. AT played an important role in enabling self-instruction while offering the advantage of a silent observer who could be consulted intermittently by the participants and the researcher to provide truthful evidence. Evidential data was cross referenced with interviews from participants, consultation with their key

workers and observations to reflect a trustworthy accurate reflection of the realities at play in the training of adults to cook at home. Educational AR is a form of practical philosophy that unifies the process of developing theory and practice (Elliott, 2009). The intrinsic value of education was strongly related to self-regulation (Pintrich & De Groot, 1990). Students needed the will and skill to succeed (Mc Combs and Marzano, 1990). Psychological empowerment consists of the various dimensions of perceived control (Zimmerman, 1990): Including the cognitive (personal efficacy), personality (locus of control), and motivational domains of perceived control. People who are self-determined take action based on the beliefs that, they have the capacity to perform behaviours needed to influence outcomes in their environment and, if they perform such behaviours, anticipated outcomes will result (Schalock and Keith, 1993).

Thereafter their capacity to perform behaviours needed to influence outcomes was developed through SI and enhanced through AT. Technology embraced the precipice between their cognitive ability, will and determination. The students slowly became aware of themselves as agents. This nurtured a growth in their self-efficacy and an experience of competency was achieved (Zimmerman, 1990). As the students realised themselves to be creative agents this increased their motivation through self-regulation to be self-determined. Mc Combs and Marzano (1990) concur that students continued motivation was dependent on performance monitoring and that innate capabilities for self-regulation are best realised through meta-cognitive self-awareness that deepened students understanding as self as agent.

Personal Reflection

Enabling the space for practical reasoning was an important step in the student's personal development which was a cyclical process that mimicked the spiral representation familiar to AR. The virtual space resolved the question of what one must do while cooking. The individualised personal DVD recording demonstrated the student's capacity for action towards their desired goal.

After reflection the process encouraged motivation to act in a positive controlled and deliberate way. Skills development became a deliberate action in SD. The enthusiasm and focus exercised by the student during training reflected their self-determination, but practice could only be totally fulfilled through the exercise of the necessary skills in the correct sequence. The students had already mastered these fundamental skills and their video recordings demonstrated their proficiency thereafter. For one to be a fine cook requires imagination, craft, skill and enthusiasm for the task. Many cooks are trained through historical conventional means others are not. Participants in this endeavour displayed an unconventional means of learning in culinary arts.

In conjunction with their applied training they ate, tasted, developed, retained and re-modelled recipes. They cooked using their senses through instinct. Their instinctive cooking enabled them to apply their own ideas to the ingredients to satisfy their own ideas about what good food means. The participants developed their own practical wisdom over the course of their culinary arts programme which enabled them to identify problems or issues in the course of their cooking and resolve them without further assistance. Video self-modelling and self-prompting applied as teaching strategies presented feasible, empirically based self-learning methods. Self-

modelling was achieved through the use of AT recording visual images of participants cooking onto a DVD disc.

In the case of each new skill which was taught as a component of participants' task analysis training, they had problems until they achieved competency. The participants were encouraged to self-prompt overtly but the diction was of their own creation. They were not given commands to articulate. So overtime they built their skill repertoire and skill vocabulary themselves. I became very interested in this evidence and took additional time to review the work of educational psychologists in particular Vygotsky. His work shed light on my interpretation of what I thought was happening. The students generated their own meaning, articulated their own commands and solved problems encountered on their own.

Aristotle called this practical reasoning phronesis. He regarded it to be quite distinct from theoretical reasoning or episteme. Practical wisdom can only be acquired by practitioners in seeking to achieve standards of excellence inherent in their practice. They develop the capacity to make decisions about what would constitute an expression of good. It is a moral and intellectual virtue inseparable from practice and constitutive of the moral consciousness (Elliott, 2009). Participants acquired their own practical culinary wisdom through practice which enabled them to be exercise greater SD skills. They managed to cook independently without reinforcement and corrected their own errors through self-observation, experience, reflection and reasoning.

Critical thinking by the students could only be achieved when they had space free from disturbance or distraction. Hence cooking at home was not practical when there were too many visitors around. The level of concentration they required to achieve success determined that they could not cook at home when there were distractions present. The levels and intensity of concentration generated by the students in their skills application was discernible in the quality of their cooked meal. The development of flair or personal nuances applied by participants such as the size they cut salad items was most revealing. It demonstrated that they could take their training to a personal level beyond the zone where they were taught to cook systematically. Yet they still kept the self-control mechanism to produce the end product as they liked it. They moved their zone of proximate development personally to subconsciously reveal a level of learning that was not expected or predicted by myself or previous research. All peoples right to life long education, SD and freedom to pursue cultural engagement are recognised and protected (UN, 2000). The problem for people with ID is having the choice to live in a home environment where they can be supported to self-advocate for themselves. Where and with whom they live should not come down to a matter of chance. They have a right to pursue projects that interest them.

Aesthetic expression is a cultural phenomenon. Culinary art is a signature of civilised culture (Wrangham, 2009). Engagements in cultural practices satisfy our artistic need for freedom of expression which enhances our QOL. Dewey determined that real art was created in the apprenticeship served to truly appreciate the artistic product and that everyone can be an artist if it was built on experiences (Dewey, 1934). All the participants participated and acted as truly gifted culinary artists. We

should therefore look to art as a democratic transformative process that can reflect a more democratic society where we all can participate equally (Dewey, 1934). The democracy of art allows for truly valuable inclusive practice in the production of cultural products. Unintentionally training also turned out to be an unexpected antecedent as students most usually ate what they had prepared. In contrast to many other research trials participants were supported to choose the recipe items they liked and the dishes they cooked were in keeping with these preferences. Skills learnt were transferred to home. A feature of all the training literature to date reviewed by the author for people with ID was that none of the research into cooking placed any great emphasis on food appreciation or culinary arts.

Culinary arts consist of a myriad of skills that bring together a unique combination of history, theory and practice under one discipline. Dining for students following cooking became a pedagogical process where students were able to appreciate the quality of their work. It was a method to access the complexities of cooking where one could correlate how the variables of time, heat, skill and application through quality ingredients contribute to their sensory experience. It was a personal journey of discovery and self-learning.

This culinary education project was designed to be universally applicable to many people. It can facilitate full inclusion from many strata of society who may have missed opportunities to learn how to cook at home. This project presents a means for people to take control of their learning enabling the generation of their own self-instructional cues. The process is liberating. Research on the difficulties that students experience while attempting to self- instruct might lead to pedagogical practices that

are inclusive for all learners (Florian, 2007, p. 18). Beginning with behaviour modification and moving through the realms of SLT and constructivism, experiential learning and COP, each theoretical realm offers some level of guidance to practice.

At the centre of the research is the focus on the students home which plays the most crucial and subtle role in the process of lifelong learning as it continues through the life span of the individual (Cross, 1981). There is now a way that is equitable, enjoyable and worthwhile. People who cook have greater choice about what they can eat and are empowered to take greater control over their diet. The value of choice has seen people lose their lives in the pursuit of freedom but can be as mundane as choosing what ones wants to eat (Fujiwara, Usui, Park, Williams, Taira, Tsutsui & Tobler, 2013).

Questions Generated by the Study

This study provided evidence of the participants' ability to be self-determined, learn a functional skill, live more independently and empowered them to apply it whenever and where ever they chose. The research succeeded in demonstrating the value of an informal education which can be applied as a means of improving social status, QOL and experience. For participants it enabled their greater communication, expression, self- confidence, life-learning, SD, experience, participation, community living, active citizenship, self-esteem, self-reflection, self-evaluation, self-help skills and moved them closer to their self-actualisation.

As well as finding solutions to problems the research also generated the following questions:

- Could people living in community settings with ID who would like to live more independently be trained to do so using self-directed verbal prompting?
- Could these students contribute to their improved QOL by exercising greater SD in their daily lives?
- Could the staffing resources currently targeted in the provision of daily living skills for people with ID who have learned to live more independently be targeted at facilitating them to achieve their PCP?
- Could students improve their health and life expectations?
- Could students build a learning network or food culture in their communities?
- Is it fair, ethical and worthwhile to train students in specific skills that they themselves identify as being important to them as opposed to engaging in training that they do not find fulfilling, rewarding, stimulating or of long term benefit to their independence, SD, health, wellbeing or employment potential?

When will governments realise the paradox of policies aimed at community inclusion which cannot be achieved through the implementation of generic legislation which dictates how people with ID should live? It reduces their choice, inhibits their freedom, limits their options and does not respect their rights to freedom, equality and SD? The implementation of a community inclusion policy is open to interpretation by the SP and the street level bureaucrat puts into practice their interpretation of the legislation for the life of the agent (Lipsky, 1980).

Limitations

This project could not be generalised to every person with a moderate ID. It was a small scale study involving a purposive sample. The results were relevant to the individuals in question though they represent the positive aspects of lives for people growing up in care or community living. While they experienced time away from the family home they also had the opportunity to become members of an extended community home, had opportunities for education, training, work, leisure, social and sporting activities such as basketball and swimming with other people with ID. They were therefore encouraged to lead a good life and their enthusiasm, commitment and motivation certainly reflected their zeal for life. They could potentially be ambassadors of training for their peers such was their skill and commitment.

This project represents a collaborative approach to culinary education which was driven by the innate characteristics and personalities of the participants. They are individuals and not representative of any stratified population sample. VM and VSM were previously carried out in a rigid ABA format. This project while adopting the positive aspects of behavioural theory was an eclectic approach which did not surrender to a purely behavioural methodology. Therefore the results could not be compared or cross referenced to other research carried out simply in that domain. Most especially the project concentrated on the individuality of students and built on their existing skills in a social constructivist style. The study aimed to facilitate skills development but that was deemed to be only one of the overall aims. In reality the research was a dynamic collaborative venture between the participants and me. They drove the model and dictated its progression. The study was conducted working with the participants, they proposed the investigative topic and they provided their voice.

The findings are specific to them. I made no claims about potential employability of participants as this was never the goal or a realistic aim.

Questions Generated by the Study

Reflecting on my own collaboration with the participants in research I acknowledge the inherent potential which they possess and which I believe could be further developed if they so wished. Over the course of the journey they have generated in my mind more questions about their abilities and potentials than answers to my initial research question and my way of thinking, opinions and understanding has changed dramatically. Through their endeavour they have presented questions personally and as advocates or role models of their peers as to why they are being trained to work in hospitality enterprises if they have no reasonable opportunity of obtaining paid employment at the end of their training?

If they have completed a recognised training period and have not been employed elsewhere then should their fully trained sub-sequential services not be rewarded financially? If this was to happen they would then receive workers' rights which they are currently denied.

Could they not be trained primarily in life skills to look after themselves with support rather than having most things done for them? The questions have no simple solutions. We were fortunate over the course of this project that none of the participants sustained any injuries while training but with real life tuition skills scenarios came risks. Risks are things that we take into account each day in our lives

but people living in care are often cushioned or over protected rightly or wrongly very often from due risk.

Inspections by HIQA have thankfully improved the levels of care in which residents of SP live but they also place those organisations, management and staff members under the added burden of trying to insure that those in their care are not put at risk. Risk limitation very often encompasses the provision of meals in SP. Bulk generic industrial catering produces food that is fit for human consumption. Taste, flavour, aesthetics qualities are not pre-requisites to it's creation. Cooking fresh food at home and sharing it with friends encompasses important elements of a healthy lifestyle. The activity generates positive emotions and reduces anxiety. Limiting risk is not always conducive with broadening life opportunities. There are real risks for people living in a true community setting. There has to be freedom to choose, to try, to achieve, to live?

Conclusions

The project could not be generalised to every person with a moderate ID. It was a small scale study. The results were therefore relevant to the individuals in question though they represent the aspects of lives for people growing up in care who have the support required to make positive changes to their future. I believe their success was attributable in part to their ownership of the design, their diligence and motivation.

The application of video in the training of people with disabilities is gaining momentum as demonstrated by literature (Mechling, 2008). Outcomes are generally favourable in the application of assistive technology for the education of adults with

moderate ID. Research had examined the effect of instructor created programmes to assist in the education of adults with ID (Mechling 2005). In line with changing government disability policy and legislation there is now more of a focus in video technology training on self-advocacy, person centred planning and the individuality of the learner. Research has progressed to the stage that students can be involved in their education through the use of video self-modelling and self-prompting techniques to teach functional skills. The instruction to some extent therefore comes from themselves (Mechling, 2007). As new technology evolves it becomes easier for students to use and more cost effective to apply in the delivery of instruction programmes most especially culinary programmes (Mechling, 2008). Students can also self-operate learning devices such as DVD players as intermediaries in their instruction (Mechling, Gast & Fields, 2008). These are powerful independent learning tools for people who lived in an era when most living skills were carried out for them. It is imperative that the education adults with ID going forward are delivered through mediums that empower them. There is no right way for everyone to learn therefore educational programmes should be developed in collaboration with the learner and their individualised needs. Essentially efficacy of one teaching method over another is dependent on the individual and the task at hand. Assistive technology is an egalitarian, evidence based, economical method which can be employed to educate, empower and facilitate self-instruction in support of an increasing range of daily living skills for people with Moderate ID (Mechling, 2008). In this study participants learnt in a small community of practice and their learning was enhanced by mutual support and encouragement. The levels of performance which the participants achieved were not predicted or anticipated by myself. They demonstrate the inherent

potential of people with moderate ID to overcome historical barriers to independence to achieve their full potential.

Future Research

New research should look at the worthiness of self-prompting through self-articulation for students in other areas of AT such as life skills or functional skills. There is currently a need for culinary arts training for people with ID who are living at home alone or with elderly parents. People without culinary skills become dependent on ready-made, take away and convenient foods for nourishment to the detriment of their health. New research should also facilitate the inclusion of culinary arts students in the design of research methodologies that broaden their education and personal development.

Similarly it would be practical to take all of the people with ID working in sheltered occupational workshops or community enterprises and rather than training them to work there, train them to live more independently in the community particularly if they have already spent significant time training without the chance of supported employment. There should be a time limitation on the period in which an individual can be in training or working after which they should be paid for their time spent regardless of the place that they are based or the contrived terms used to describe the enterprise day care programme or day activation/activity/enterprise/sheltered work therapeutic/ commercial/like work. SP will be affected economically by how they register their clients. Currently a lot of the power remains with the SP. For example, with the registration of people with the HSE 'New Directions initiative,' the provider and their employees filled out the registration forms specifically related to the classification, types of care and employment status of all service users. I believe that

this data will be critical to future funding for services for people with ID and that current revenue streams from social enterprises such as training restaurants will be jeopardised.

Currently people who were born prior to 1980 were born into a very different culture to the one which exists today. Those same people now find themselves with increased potential to live independently alone or in a supported manner and with greater access to their family home. Today there is the dichotomy in that the children who were taken into care on medical grounds are now being released as adults from care on social grounds. They are returning to family homes where parents are now aged. Some return temporarily at weekends though others return on a permanent basis. These returning adults are very often now the care providers for two parents but most usually a single remaining parent. Duties they are required to fulfil as part of this transfer include cooking. Appreciating fully the many challenges faced by these returning children going back to their family homes and helping them reconnect through up-skilling makes their journey more liberating and ethical.

Finding One

Culinary arts training carried out in a small group setting for 3 people with moderate ID helped them to build their skills base while supporting each other through peer review and enabled the creation of a learning network. During training their personal relationship changed and they became closer. They became more competent, confident and eloquent together. Each person excelled at different things but they all progressed at a similar pace without anyone really out performing another.

Systematic Instruction applied at early stages of their training did not inhibit their ability to innovate later when cooking at home. As their training progressed each participant managed to refine their cooking to incorporate ingredient combinations which they liked. They were not predisposed or limited to what they had been taught. Participants' cooking was expressive, it was refined, individualised and artistic (Dewey, 1934).

Implications

Small group settings in contrast to independent training or training in congregated settings may be the most appropriate, democratic and social means for training people in culinary arts.

Recommendations

The creation of small group training networks in culinary arts for people with ID does not have to be based on previous social friendships and rather people with similar motivational traits may be more compatible and have a positive effect on each other. Individualisation and one to one support while being recognised in evidence based research internationally as the most appropriate means of supporting people with ID cannot supersede the power of a small group network. People with ID living in care have had their lives changed dramatically in recent years to satisfy new legislation. Legislation should be ratified to satisfy the needs, rights and happiness of the person not the contrary.

Finding Two

Assistive Technology is appropriate evidence based training medium for adults with moderate ID. VM, VSM and overt auditory self-prompting proved to be successful intermediaries in the delivery of new skills and knowledge to the participants. The viewing of recorded digital discs by the participants had a significant positive impact on their self-confidence, motivation, self-esteem and self-worth. The medium had previously appealed to them as an entertainment and learning tool. It helped to maintain their interest training at home alone and superseded the need for literacy.

Implications

Assistive Technology presents a means of training adults in culinary skills which can be individualised to their own home, based on equipment and materials in their home and managed by them at home. It presents a means of self-instruction, self-management, self-control with self as tutor. The training focus should be on healthy foods that they choose to cook themselves.

Recommendations

The method could be applied universally to culinary students of many ages, backgrounds and abilities given further research. Though the initial training is tutor dependant and requires significant resources in terms of materials and teaching hours VM presents an evidence based, cost effective, democratic and individualised means of training people for adults in their own home. It could possibly be applied to many different skills given further research. It presents participants with the opportunity to self-regulate, self-instruct and take greater control of their life, if that is what they want to do. It is their decision.

Finding Three

The participants who I knew personally for 16 years presented so many new skills and abilities which I had not predicted or had come across in previous findings. Their focus, motivation and diligence are inspiring. They represented the positive inherent ability which they and potentially their peers possess to take greater charge of their own lives in care. They also demonstrated a joy, happiness and satisfaction in being able to do tasks previously carried out by others themselves.

Implications

The group could potentially become trainers, champions or role models for their peers. Their confidence, communication ability and skills have improved significantly over their training period. Teaching others could potentially become an achievable personal goal for them. The synergy and collegiality generated by the students' family, colleagues, key workers, house-parent and SP all supported participants on their journey. It is important to emphasize that as a result of their participation in lifelong learning, participants have acquired competences that can develop throughout their lifetime and this process may not only to be of benefit to their individual well-being, but may also contribute to the improved life of their community (Varbanova, 2012).

Recommendations

The creation, development and fostering of a supported learning network was critical to the participants development. During the course of the project I was the main trainer operating with support from key-workers, house-parents and care staff.

There is no reason why in future people with ID who have trained successfully in culinary arts could not, with support, be encouraged to act as trainers for their peers. Peer review, critic and support were critical to participants' success and would be valuable tools to employ for future students training needs.

Finding Four

Special education can facilitate people with disabilities to take more control of what they eat (Mechling, 2008) and participants expressed self-efficacy by learning to cook nutritional healthy food (Johnson et al., 2011). There is no validity in providing health education to change behaviours and values if people are not equipped with the skills needed. There was a direct correlation identified in research between people with cooking skills who were more inclined to eat fresh vegetables and eat less processed foods who consequently had a more healthy diet than those of the general population (Hartmann, Dohle & Siegrist, 2013). The need for practical life skills is a real issue for people who had grown up in care. The initiative provided an opportunity for the students to experience critical learning and helps them to change their psychological and cultural assumptions that constrain the way they seen the world (Mezirow, 1991). Training also provided knowledge from which to base informed choices in relation to their health (Kolb, 1984).

Implications

Obesity represents a serious potential health risk for everybody living in Ireland today. For people living in care they are at a greater risk (CHSSPS, 2009). Choice is a fundamental aspect to freedom and liberty for all peoples. People living in care should have the education and opportunity to choose healthy wholesome foods as part of their balanced diet. Home cooked food based on good quality ingredients, limited

portion size, cooked freshly, presented aesthetically and served socially when the consumer so desires can provide satiety and a feeling of wellbeing. Feelings of wellbeing experienced collectively as a group strengthen relationships, change mood, diminish anxiety and encourage consumers not to over eat (Blundell & Halford, 2004).

Recommendations

Ask people living in care what daily living tasks they would like to do which are currently provided or carried out for them. Put training strategies in place complimented by AT to support and satisfy their needs. Satisfying individualised needs requires additional resources. Parents, guardians, advocates and SP should lobby on behalf of their charges to governments nationally and internationally. SP in particular have a duty of care to advocate on behalf of their service users not to remain silent in fear of scrutiny by funding agencies. In doing so they would aspire to meet the needs of people in care towards a good life and not simply satisfy the legal or defined standards imposed by HIQA.

Creating an inclusive society is not only a goal of policy-makers, but also of practitioners who seek to ensure that all people, whatever their circumstances, are afforded the same life chances as their peers (Whitehurst, 2007). **S**ocial inclusion involves an array of strategies and initiatives designed to improve the life chances of disadvantaged groups in society (Kinder & Harland, 2004). To demonstrate one's own individuality one has to have control over one's life and be able to exercise autonomy independently (Dowson et al., 1996).

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APPENDIX A - SEMI STRUCTURED INTERVIEW SCHEDULE ORIGINAL

Introduction

Thank you all for agreeing to talk to me about your interest in food. The reason we are here is to get an idea about foods you like. I would like to listen to you. Then I will put a few recipes ideas together. Would you mind sharing your views with me? I will repeat back to you your answers to me, if that is ok. Please correct me if I am wrong.

Are you happy to talk to me?
Your answers will be treated as confidential. With your permission, I will be recording the interview to make sure that I have an accurate record of what you said. When I have prepared the transcripts, I will read then back to you, so we can agree on what you said. Your name will not be identified in the final report.

You can also refuse any question and end the interview at any time.

Please feel free to interrupt me if you cannot understand what I am saying.

I will first ask you a little bit about your own cooking background, then move on to more general issues relating to your experiences.
Including your general level of satisfaction and any new ideas you may have.
Finally, we will conclude with some general questions about your impression of the current menus

Background Information:
To begin with, I was wondering if you could tell me something about yourself.

Sex	M F
Age	
Day Service	Front of house Kitchen
Highest level of Education	Special school Vocational training Work experience Supported employment
Number of years here	
Favourite soap opera	
County of birth	
City/town of residence	
Favourite team	
Favourite singer	

Do you dislike any particular food?

Do you have any special dietary needs/ allergies?

What are your favourite foods?

How familiar are you with home cooking, do you like to watch cookery programmes?

Have you ever chopped apples for fruit salad? What is your favourite dish at mealtimes?

What foods do you like that is not currently available at meal times?

Would you like to learn more about presenting food?

What would you like to cook?

Do you like spicy food?

What can you do to make sure that your diet is healthy

Do you like fruit?

What vegetables do you prefer?

What fruit and vegetables do you dislike?

Closing

So to summarize, it sounds like the you like…….and dislike…….You would like to …….. And you can…… Is that correct?

Other Issues:
Do you have any concerns around mealtimes that we haven't talked about?
Thank you for your help and is there anything we haven't covered that you would like to add?

Thank you for assisting me and can I finally ask you if there anything else that you think is important for me to know about mealtimes?

APPENDIX B – REVISED INTERVIEW SCHEDULE

As you all know my name is Mark Farrell and I work in the…….. I am also a student and I would like to hear your views regarding what type of foods you would like to cook in your own home? Would you mind sharing your views with me? I will repeat back to you your answers to me, if that is ok. Please correct me if I am wrong.

To begin with, I was wondering if you could tell me what are your favourite foods?

What cooking do you presently do in your own home?

Have you ever cooked for family or friends?

How familiar are you with home cooking, do you like to watch cookery programmes?

Do you take an active part at meal times, setting the table, preparing salads or washing up?

Have you ever chopped apples for fruit salad?

What is your favourite snack?

What foods do you not like?

Would you like to learn more about cooking?

Yes/No

Do you like spicy food?

What can you do to make sure that your diet is healthy?

Do you like fruit?

What vegetables do you prefer?

What fruit and vegetables do you dislike?

What meat do you like?

Do you go to the shops on your own?
Do you look after your money yourself?
So to summarize, it sounds like the you like…….and dislike…….You would like to …….. And you can…… Is that correct?
Thank you for assisting me and can I finally ask you if there anything else that you think is important for me to know about mealtimes?

APPENDIX C – INTELLECTUAL FUNCTIONING

The investigation began with the clinical diagnosis of participants because that was how they were identified and assessed primarily to receive a special education. Historically after assessment very often young people became separated from their family, which was the case for the participants in this project.

This separation was preceded by quantification of their mental well being and was necessary in this instance purely to promote accuracy. While every individual is unique and their overall abilities or potential cannot be tested or determined simply by an Intelligence Quotient (IQ) test, IQ testing is still used by psychologists to determine intellectual functioning. All participants in the investigation were so defined as being in the Moderate Range of Intellectual Disability (MRID) functioning.

Clinical definitions of MRID vary but it is generally accepted as being within the IQ range of 35 to 54, with people having Adaptive limitations in 2 or more domains. *Intellectual disability is characterised by significant limitations both in intellectual functioning and in adaptive behaviour as expressed in conceptual, social and practical adaptive skills. This disability originates before age 18* (Schalock, R. L. et al., 2010, p.5).The following clinical assessments of participants was important and significant therefore because they reflect each individual's state of being in relation to cognitive functioning before age 18.

However to accept this definition the latter is also important. *There are five assumptions essential to the application of this definition of ID. Limitations in present functioning must be considered within the context of community environments typical of the individual's age peers and culture. Valid assessment considers cultural and linguistic diversity as well as differences in communication, sensory, motor, and behavioural factors. Within an individual, limitations often coexist with strengths. An important purpose of describing limitations is to develop a profile of needed supports. With appropriate personalized supports over a sustained period, the life functioning of the person with an intellectual disability generally will improve* (Schalock, R. L. et al., 2010, p.7).

APPENDIX D - CONFIDENTIALITY

This research is being conducted by the investigator as part of a doctorate in Education studies at St Patrick's College. Only the researcher, the research supervisors and those assessing the quality of the research for the purposes of the EdD programme will have access to recordings or transcripts. The audio recordings and transcripts will be retained securely by the researcher until the completion of the EdD programme in 2015, and then destroyed. Involvement in this research study is voluntary and participants will be informed that they may withdraw from the study at any point, without penalty.

The National Disability Authority in accordance with its statutory role provides guidelines to facilitate ethical research when working with people with intellectual disability. The researcher will apply this resource, which is in line with European best practice. The core values of which have been drawn up through consultation with people with learning disabilities. There are five values including maintaining the well- being and avoidance of harm; collaboration, consent, respect, equality and diversity. Of primary concern in this investigation is the fact that video contains data that makes research participants clearly identifiable. Consequently confidentiality cannot be assured but access will be limited. The increasing easy access by all to social media and new technological innovations has increased the need for improved ethical guidelines. The researcher will achieve full compliance with national, academic and organisational regulations. The researcher will protect the anonymity of participants by assigning aliases to individuals. Video footage will be available only to them and the researcher. When not in use it will be secured. A DVD player will be assigned to participants for their use when playing footage, as opposed to a lap top from which data may be uploaded to the internet.

The researcher is this instance sets out to be fair to participants and expects anticipated benefits for their participation to outweigh potential risks to them. Risks include physical harm which can occur when working in kitchen settings from knives and cooking appliances. Training prior to commencement will minimize health and safety risks and candidates are free to withdraw from the program at any time.

APPENDIX E - INCLUSION CRITERIA

Participants with no previous cooking experience, but who have completed training in healthy eating and hygiene/food safety by an accredited trainer are eligible for inclusion. They are also required to have good communication, motor and social skills with cognitive functioning at moderate range of the ID spectrum. They further need to possess the visual ability to see pictures/ screen and an ability to hear and produce auditory cues.

Exclusion criteria

People with mild or profound intellectual disability are excluded from the study.
Those under 18 years of age and also those with poor communication, motor or social skills, previous cooking skills or those who have not received hygiene and food safety training, are further excluded.

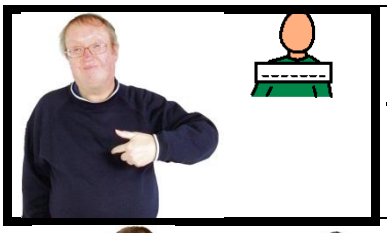
APPENDIX F – PLAIN LANGUAGE STATEMENT TO BE READ TO CLIENTS

This project is about training to cook your own food. It is a new way of learning to cook. The researcher, Mark Farrell, is working towards a qualification in education at St Patricks College, Drumcondra. If you would like to take part in this study, it is your decision. You can change your mind at any time. The researcher will also have to talk to your guardian and staff about extra help you might need for the study.

You will need to take part in an interview before we start to find out about your food likes and dislikes. You can provide ideas about what you would like to cook. This will be recorded to ensure accuracy and you can say no. The study should begin in February 2013.The study will take 2 months and will involve you firstly for 1 month taking part in cookery classes twice a week for 1 and 1/2 hours. This will be followed by further training at your own home including instruction by you, recorded on DVD. This part will involve you been filmed cooking and recording of your voice.

The footage can then be accessed only by you, to help with your cooking at home. It is important to ensure that there is minimal risk to everyone participating in the study, so health &safety is very important at all times. It is intended the study will help you to build upon your cooking skills. Finally the researcher will return to record how well you have progressed with your cooking. Your support and feedback through the project is essential to make it successful. You will be asked to fill in a work book over the time. This is simply to get up to date feedback from you and your support worker. The results of the project will be published but your identity will be preserved. All recordings, transcripts and notes will be held in a secure location. Once the project is complete, the video footage in the possession of the researcher will be destroyed. Thereafter all research materials will be destroyed within 3 years.

APPENDIX G - PICTORIAL CONSENT APPLICATION

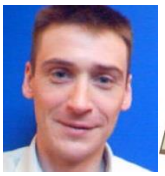


I wish to put my name forward:

(Insert name here)

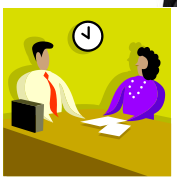
I would like to go to the Cookery Course to learn how to prepare and cook food.

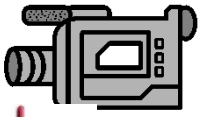
Yes ☐ No ☐



I understand that this is to help Mark Farrell with his studies but I can leave the Course any time.

Yes ☐ No ☐





I give permission for Mark to talk to me about 'food I like' to record our discussion and also when I am cooking. I can give ideas of what I would like to cook to Mark.

Yes ☐ No ☐

I understand I need to fill out a workbook'

Yes ☐ No ☐

I understand that I need to be safe when I am cooking.

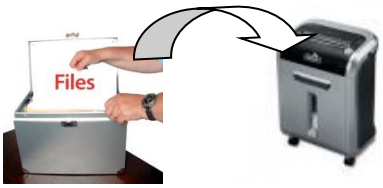
Yes ☐ No ☐

I understand the Course will be in the…… for the first month and then in my home.

Yes ☐ No ☐

I understand that the video recording will be held securely, used only for the Course, Mark's Studies and then deleted.

Yes ☐ No ☐



I understand that my name will not be in Mark's final Report and that all research materials will be destroyed within 3 years.

Yes ☐ No ☐

Sign your name: _____

Keyworker: _____

facilitating service user who is unable to sign.

Please return to Mark Farrell by date: _____

APPENDIX H - RESEARCH APPLICATION TO SERVICE PROVIDER

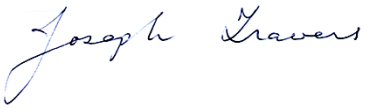
1. Title of research project: Investigation into the use of video technology, self-modelling and self-prompting, as a means of educating people with moderate intellectual disability, in culinary arts in their home.

2. Name of local project supervisor(s) – who should ordinarily be a hospital consultant: Dr. Joe Travers, Director of Special Education at St Patrick's College, Drumcondra.

3. Name and address of the person to whom the Committee's decision is to be communicated:

   Mark Farrell c/o……

4. Please give the name and telephone number of the person to be contacted if a query arises in connection with this study. Dr. Joseph Travers, Director of Special Education at St Patrick's College. 01-8842040, e-mail: joe.travers@spd.dcu.ie



Signed _____ Date: 5th February, 2013

Project Supervisor

Signed: _____ Date:

On behalf of ……

Confidential Research

Please place an "X" or/after the appropriate response in the boxed areas. NA is an abbreviation for Not Applicable.

1. Title of research project: Investigation into the use of video technology, self-modelling and self-prompting, as a means of educating people with moderate intellectual disability, in culinary arts in their home.

2. Name of Chief Researcher —Mark Farrell

3. DECLARATION BY SUPERVISOR

I confirm that the information provided in this protocol is correct. I also undertake to provide an annual report on the anniversary of Research Ethics Committee approval with details of the number of subjects who have been recruited, the number who have completed the study and details of any adverse effects.

Signed: Date:
(Chief Researcher)
Please PRINT name of signatory here

Signed: Date:
February 5th 2013

Joseph Travers

(Supervisor)
Please PRINT name of signatory here
JOSEPH TRAVERS

Research Ethics Committee opinion:

Approved subject to:

Approved without conditions.

Signed:

6. The main ethical issues for the proposed research are participants' confidentiality, anonymity, informed consent, self-determination, freedom from coercion, and deception, risk of self injury and emotionality vulnerability.

6.1 Confidentiality; will be maintained by the use of alias, to protect participants rights to privacy.

6.2 Anonymity; it is challenging to preserve the anonymity of participants because of the use of video footage, however in this instance, only the researcher and investigative team will have access to the photographic material. At all other times it will be secured in a locked room.

6.3 Emotional vulnerability; while it is the intention of the researcher to create a rewarding and pleasurable learning environment for participants one cannot overlook their vulnerability given their learning difficulties. Their eagerness to please may create emotional difficulties for them and have an impact on their lives. Strategies which will reduce this negative potential include the action research format of the investigation in a collaborative style with participants working closely with the researcher and also with the support of their key-worker and care team. The pace of the project will be linked to the individuals person centred plan and their individual capacity to engage with the learning materials. Throughout this they will receive reassurance and positive reinforcement from the researcher and they will be consulted continually for feedback. The researcher will also monitor participants for verbal/ non-verbal cues throughout the project to diminish the chances them feeling anxious or disappointed.

6.4 Self-determination; choice making for participants is what this project is all about, it contributes to increased quality of life and it is a new skill, very often, for people with intellectual disability to learn (Agran & Wehmeyer, 2000).

6.5 Freedom from coercion; provision for individuals right to choose will be facilitated by each individual receiving detailed information on the project in an accessible format, to encourage their informed consent with support from parents and guardians. Their right to refuse or withdraw at any time is also articulated to them in a clear concise manner.

6.6 Risk of self injury; Risk, safety and welfare are central considerations in the provision of training to participants. This investigation presents new risks and opportunities. People have a right to take risks and access new opportunities towards a more fulfilling life. Continual risk assessment and management will be employed to maintain safety and enhance the student's opportunities (Green & Sykes, 2007).

6.7 If a participant became distressed or upset during the course of the research project, they would immediately be withdrawn from the stressful situation, reassured and care support provided.

Details of project

7. Background: This research is being conducted by the chief investigator, Mr Mark Farrell (See Appendix A) as part of a doctorate in Education studies in St Patrick's College and with the academic support of their research team. The researcher will abide by current ethical guidelines and codes of conduct.

B. Has a detailed research protocol been drawn up? (If so, such documentation must be submitted to the Committee.) (Appendix B)

Yes

C. Has the researcher who may be asked to present the project to the Committee studied all the documentation drawn up for the project, and will the documentation be studied by all the researchers before the project begins?

Yes

D. Briefly describe the scientific rationale for the project:

There has been a growing body of research looking explicitly at the learner's experience of using technology in an educational context for people with intellectual disability. These new mechanisms which can facilitate their education must also be self-motivational, efficient, cost effective, self-controlled and applicable in their own home to promote positive outcomes. Audio visual technology provides education and research communities with an ideal method to generate data for research purposes. While this format is ideal for data collection, digitization has made the method more accessible, economical and efficient to record, format and edit for display in disc format. Video can provide real simulations of the tasks in the correct sequence delivered by the learner, thus empowering them. Rather than being instructed by others, technology provides the means for participants to instruct themselves. Video prompting may be successfully employed with less teacher involvement, having students exercise greater control of their learning across multiple settings. This study aims to answer the research question: Can self-directed learning improve the motivation and culinary skills of participants without continual teacher intervention? The goal for the person may be to gain greater freedoms and autonomy for themselves as part of their Personal Centred Plan.This study aims to introduce and test a creative new method of training which will amalgamate traditional hands on skills development with the latest evidence based research in video technology education. Ultimately, the overall aim of the project is to bring about practical improvement in the culinary skills of participants.

8 Planning and organisational structure (briefly outline the study methods, **the various treatment groups, what parameters will be studied, how often and for how long, and what outcome measures or end points will be used to assess the efficacy of the project**, for each subject): The proposed methodology is as follows.

Study design

Historically, while researchers have demonstrated the effectiveness of instructional digital designs for educating people with intellectual disability, their instruction most commonly comes from someone else, not themselves (Ayres, 2012). This study aims to explore a new self –empowered method of training which will amalgamate traditional hands on skills development with the latest evidenced based research in video technology. The enterprise of successfully marrying educational practice with contemporary technologies is now common practice (Crook, 1996). This study aims to teach cooking skills in a group setting through person centred planning and then empower adult students to transfer their new skills to their home living environment. Action research will be employed to deliver an individualised learning program of culinary arts to participants. The advantage of this process being that the researcher can participate in the intervention. The process is dynamic, allowing the researcher to carry out continuous evaluation and modification. Participatory in nature, it involves planning a change, acting and observing the process and consequences of the change. A perfect video template of participants cooking at their home will be created following primary training. This template will then be edited by the researcher for the participant's use as a learning tool, including their own personal voice prompts. Video prompting is recognised as providing a positive motivational force for teaching students new tasks. The objectives of the study are to design a collaborative research project with participants through semi structured interviews, develop a programme from their feedback, monitor and consult them throughout the implementation of the study and record through note taking, observations and recording in their journal.

Sampling and sample

The study requires voluntary participants. The sample size is 3 and the selection is purposive. 3 people provide an opportunity for the researcher to work efficiently with candidates and closely monitor and evaluate their performance. PCP demands an individualised approach to learning which can be facilitated adequately with this number.

Study Setting

The setting will be on the grounds of …… campus for the initial training, thereafter in the participant's homes.

Time frame and procedures

The investigation would begin with consent, allocation of training base and recruitment of participants. Interview of candidates would follow with design of individualised culinary programmes for each person. Cookery lessons will be divided into sessions of 1 ½ hours twice weekly over a one month period, in a group setting. The focus will be to build participants confidence and capabilities in a group setting, promoting peer learning and review. Lesson plans will be developed for each class and learning outcomes and objectives determined. Progression will be dependent on the participants individual pace, development and feedback over this time. Then the researcher would carry out visits to participant's home with personalised training. The project would commence once consent has been given and will take 3 months to carry out all training.

Data Analysis

The researcher will collect data through interviews, observations, and documentation of notes in a research diary and audio visual recordings of students. Outputs will be interview results, first assessment of skills, student's journal entries, observations over the course of the project and video footage. These will be managed using a framework approach which is mainly deductive. Final analysis of data after completion using thematic content analysis will provide a mechanism to assess the learning approach and outcomes. Thematic content analysis will reflect what the intervention looked like to participants, their lived experience. By following the process the researcher can help to legitimise the qualitative research, enhancing quality, validity and reliability of the findings (Seale, 2012). The findings from this qualitative phase will then be analysed and interpreted. Subsequently, based on themes which emerge from the qualitative data, the programme will be reviewed and improved. The effectiveness of the intervention will be assessed continually using feedback from candidates throughout the project, in a flexible, dynamic approach. Data analysis and findings may take 6 months

9. What is the nature and extent of the assessment that participants and controls are to undergo before participating in this project?

Participants will have being assessed prior to invitation to participate in the study to ensure they meet the inclusion criteria. Following their admission into the study participants will dictate baseline data and inform the design and implementation of the intervention as active participants in the process through action research.

10. How will the wellbeing of participants and controls be monitored?

Monitoring will take place daily through observation and constant consultation with them and their care team over the 3 months of the investigation.

11. Name, qualification and position of each person associated with this project:

12. Is each researcher covered by insurance? Yes

Name: Mark Farrell **Qualification:** MSc

Position: Manager

SECTION C

Participants

15. How many subjects and controls from this centre are expected to participate in this project?

Number

Subjects: 3 Controls:0

16. If this is a multicentre study please indicate:

a) The expected overall number of subjects: Number

b) The number and geographical distribution of the centres involved in the study:

17. What criteria are to be used for the selection of participants?

Following consent from ……, the researcher will seek pre-screened, volunteer service users as participants. The researcher will invite three adults with a moderate intellectual disability, who have previous hospitality training and who are interested in participation. The minimal educational requirements necessary for participant's inclusion would be prior training by a certified instructor in health & safety, basic hygiene & food safety. No prior knowledge of computers is required. They should also possess the visual ability to see pictures/ screen, an ability to hear auditory cues, an ability to communicate with each other and staff effectively and cognitive ability to recognise video prompts.

18. Are women of childbearing potential included?

Yes

If so, does the protocol/patient information sheet address the 8 points in the committee's checklist for studies involving women of childbearing potential (1-scientific justification, 2-negative teratogenicity studies, 3-waming to subject that foetus may be damaged, 4-initial negative pregnancy test, 5-forms of contraception defined, 6-duration of use to exceed drug metabolism,
7–exclude those unlikely to follow contraceptive advice, 8-notify researcher if pregnancy suspected)?

NO N/A

19. State the exclusion criteria: Women who are pregnant.

20. What are the proposed methods by which participants and controls are to be recruited?

Voluntary participation

An important rationale of special education, from an adult perspective, is to support people with intellectual disability to live independently. The Government's central policy objective for people with disabilities is contained in 'Towards 2016' and states that they should be supported to lead full and independent lives (Ireland, 2006). This presents many challenges for adult educators in building the skill set for individuals to

reach this goal, especially for those people with moderate intellectual disability and literacy problems. The researcher aims to recruit consenting volunteers from service users of ….. through consultation with them, their parents, guardians and the adult services panel as part of their individualised person centred educational plan. Each individual's right to chose will be respected, as not everyone may wish to make this commitment (Turnbull & Turnbull, 1997). Information on the programme will be provided to participants in the form of a plain language statement read to them and a user friendly pictorial consent form.

21. What inducements or rewards, whether monetary or otherwise, are to be offered to participants and controls? None

22. What arrangements exist to provide compensation to each participant who may suffer injury or loss as a result of this research project? None are envisaged.

23. Have you submitted to the committee, with this form, a patient information leaflet and consent form based on the committee's guidelines (attached to this form) to be given to each participant and control?

Yes

The wording used in answer to question 23 must also appear in the Patient Information
Sheet.

24. What criteria are to be used to ensure that the identity of each participant and control remains confidential?

Pseudonyms would be used for people in all documentation and they will be assured that whatever they share would be treated confidentially. While confidentiality cannot be guaranteed because of the use of photographic data, this will be explained to participants and their families and access to this material will be limited to the research team and participants. Data would be stored on an encrypted computer in a locked room. Paper files would be stored in a locked press. Access for the purpose of research would be limited to the researcher and supervisor. The researcher is committed to complying with ethical research guidelines. Files would be kept for the length of the investigation then destroyed. Quality of life perspectives focuses attention on the viewpoints and desires of the person with a developmental disorder. Empowering the improvement in ones quality of life is the goal of person centred planning, encouraging the person's expression of their future life vision with required supports in that journey (Miner & Bates, 2008).They and their guardians have a right to self determination as long as they are aware of all the facts is the investigation.

25. Indicate how adverse events are to be notified and evaluated:

The question of representation and involvement of people with disabilities in research is a necessary, but complex issue (Beresford & Campbell, 1994). The researcher is aware that participants may feel as if they want to please the tutor and do not want to disappoint him. Action research provides the safest medium to conduct this inquiry because of its flexibility. While the project has aims and objectives none of these may be achieved and this result does not make the process pointless. The most important aspect of the investigation is providing participants with an opportunity to engage with a medium that they may enjoy. If at any stage a participant becomes upset or distressed during the course of the research, they would be taken from the stressful situation, reassured and family, key-worker and care team informed following protocol already in place at Stewartscare involving service user incidents. Swain, Heyman and Gillman (1998) caution that all researchers are potentially in a position of power especially when working with people with ID and their rights should be upheld. Action research empowers participants to guide, drive and dictates the pace of the research process in collaboration with the researcher, providing the opportunity for their voice to be heard in the process.

APPENDIX I – FOOD JOURNAL

Sample page entry
Friday 31st of May 2013

After work I made a visit to the homes of Lorry and Cal in late afternoon. Once again went through the format for them on how to cook in their own home space. Hoping that they will transfer and maintain the good practice, skills and standards they have learnt. We showed the house staff what they could do on DVD. It is so much easier to use the DVD as a communication tool as opposed to just talking about what they are learning. It is surprising to see the reaction of staff as they are taken aback by how well the participants are progressing. I think that I am not the only person who would not have envisaged such quick progression.

It shows how important the task is to them, how hard they have applied themselves and presents real baseline evidence which I hope the staff will help them build upon. It is difficult for the staff as they are continually moved between houses and are not in one predetermined house permanently. They are at the behest of the community service provider.

This has a knock on effect for the participants as dependent on who is available this will dictate the level of support available to them. I am trying to ensure that there are sufficient ingredients in each home for the participants to practice with under supervision. It is challenging to maintain a minimum fresh quantity of each food item required without getting them mixed up with the homes provisions.

I plan to interlink visits between homes so that I can ensure that there is always another staff member present when we visit. As an additional measure I will ask the other participants to accompany me to each other's home. In that way they each can continue learning vicariously from one another, maintain the community of practice they have developed and encourage one another.

Learning or developing skills at home will be much more difficult as there will be many distractions. The participant's house mates arrive home from their day service in the late afternoon. We have to schedule visits at the same time to make sure here are staff present. It will be easy for them to get caught up in the meeting and greetings associated with coming home and forget to apply their skills correctly or in the correct sequence. Maintaining health and safety will also be a problem with some many people in a small domestic setting. These are important issues which will need to be sorted out and agreed with each house parent before we can progress further.

APPENDIX J - LETTER TO PARENTS/GUARDIANS

The …….

01.02.13.

Parents/ Guardians Name: _____

Address: _____

Dear …….

My name is Mark Farrell; I am currently employed by…….. on a full time basis and work with your son/daughter's name……at the……. restaurant. Presently I am also undertaking a part time Doctorate Degree in Special educational needs, at St Patricks College, Drumcondra.

As part of this course, I am required to carry out a research proposal. My proposal stems from a number of requests from trainees at the … to participate in domestic cooking classes. The title is: Investigation into the use of video technology, self-modelling and self-prompting, as a means of educating people with moderate intellectual disability, in culinary arts in their home.

I hope that by carrying out this study I can improve the culinary skills of candidates participating. The results of my study may help participants cooking abilities and also improve how cooking is taught to others in…….. Having applied for the permission from the research and ethical committees of …… and St Patrick's College, I will abide by their Ethical guidelines. I wish to request the participation of your son/daughter in this programme and also request your permission and support throughout the process.

The project will take two months and will involve participants taking part firstly in practical cooking classes followed by training for candidates in their own home. Their performance at home will be video recorded onto a laptop; this data will be then edited and burnt onto a DVD disc for their use. The intention is that participants can play the recorded material of themselves on their DVD players as a reference when cooking at home. To ensure that candidates are involved and consulted throughout the project, they will be interviewed prior to commencement. The researcher would like to know what are participants' specific food needs, likes and dislikes. A journal will also be provided for them to record their impressions and feedback throughout the time of the study.

I will need to visit them at home with your permission to record their performance and access the effectiveness of their learning. If you have any queries or would like to contact me regarding the proposed study please contact me on …….. I look forward to hearing from you.

APPENDIX K -LETTER TO CARER/ KEY-WORKER

01.02.13.

House parent's name and team members: _____

Community residence address: _____

Dear …….

My name is Mark Farrell; I am currently employed by ……. on a full time bases and work with person's name…….. At ….. Presently I am also undertaking a part time Doctorate Degree in Special educational needs, at St Patricks College, Drumcondra.

As part of this course, I am required to carry out a substantial research project. My research proposal stems from a number of requests from trainees at the…..to participate in domestic cooking classes. The title is: Investigation into the use of video technology, self-modelling and self-prompting, as a means of educating people with moderate intellectual disability, in culinary arts in their home.

I hope that by carrying out this study I can improve the culinary skills of candidates participating. The results of my study may help participants' cooking abilities and also improve how cooking is taught to others in …. Having applied for the permission from the research and ethical committees of ….., I will abide by their Ethical guidelines. I wish to request the participation of person's name…… in this programme and also request your permission and support throughout the process.

The project will take two months and will involve participants taking part firstly in practical cooking classes followed by training for candidates in their own home. Their performance at home will be video recorded onto a laptop; this data will be then edited and burnt onto a DVD disc for their use. The intention is that participants can play the recorded material of themselves on their DVD players as a reference when cooking at home.

I will need to visit them at home with your permission to record their performance and access the effectiveness of their learning. If you have any queries or would like to contact me regarding the proposed study please contact me on …. I look forward to hearing from you.

Regards,
Mark Farrell.

APPENDIX L-LETTER OF PERMISSION TO MANAGEMENT

21.1.13.

To Senior Management Team,

My Name is Mark Farrell; I am currently employed at the …restaurant. I am also undertaking a part time Doctorate Degree in special educational needs, at St Patrick's College, Drumcondra. As part of this course, I am required to carry out an independent research project. My research proposal is: An investigation into the use of video technology, self-modelling and self-prompting, as a means of educating people with moderate intellectual disability in culinary arts in their home. I hope that by carrying out this study I can improve the culinary skills of candidates participating. The results of my study may help participants' cooking abilities and also improve how cooking is taught to others in …. Having applied for the permission from the research and ethical committees of …, I will abide by their ethical guidelines.

I am requesting your permission to conduct the study in … and in specific community settings with your consent to recruit voluntary participants. Primarily, I propose to conduct one to one semi structured interviews with 3 candidates. Participants' names and the name of the organisation will be held confidentially and will not be disclosed to anyone other that the research team. All participants will be provided with a plain language statement and full explanation of the research process and asked to sign a S….. consent form. Participants will be advised that they have the right to withdraw from the study at any time and their data will not be included in the study. Issues of ethics, confidentiality and anonymity have been addressed within the proposed study. I would be grateful if I could conduct interviews, carry out classes and tuition on the campus, as the participants will feel comfortable in this setting and their confidentiality can be maintained.

The project will take three months and will involve participants taking part firstly in practical cooking classes followed by training for candidates in their own home. Their performance at home will be video recorded onto a laptop; this data will be then edited and burnt onto a DVD disc for their use. The intention is that participants can play the recorded material of themselves on their DVD players as a reference when cooking at home. Therefore I will also need to visit them at home and with your permission to record their performance and access the effectiveness of their learning.

It is this researcher's opinion the project will be a very positive step for participants to take on the road to their greater independence and may help map out a better way for others in the future.

I will be guided by my research supervisors from St Patrick's College throughout the study. If you would like to discuss this further, please contact on … or alternatively at the above address.

Yours sincerely,

APPENDIX M-LETTER OF APPLICATION TO RESIDENTIAL MANAGER

From: Mark.Farrell@(Day Services)
Sent: 17 May 2013 16:53
To: xxxxxxxxxxxx@.....ie (Community)
Subject: Research

xxxxxxxxx

Following notification of permission from research and ethics committees of …..at the last adult services meeting and consent by participants, request permission to visit xxx and xxxxxx. The project aims to teach people to cook in their home and following extensive training at the ….., the rationale to visit, is to transfer their skills to their own community home. I would need to visit them in the presence of another staff by appointment,

Regards,
Mark

APPENDIX N - PREFERRED FOOD OPTIONS

Salad/ lettuce, tomatoes, fish, potatoes, cucumber, eggs.

APPENDIX O - SKILLS

Adaptive skills are recognised as a person's ability to function in contrasting life domains or fields of personal independence and social responsibility. These had been adapted from pioneering work carried out by Edgar Doll (1935) who created a means of estimating the social competence or maturity of a person with an intellectual disability through a Vineland Social Maturity Scale. People with moderate ID may have poor adaptive skill competency and they need training in life skills. Poor competencies inhibit the person's ability to participate fully in community and reduce their quality of life or reduce their capacity to reach their full potential. Lack of training in living skills increases dependency on family or care support and can lead to passivity or learned helplessness. It is important to provide an adult with ID a means to live and work independently in their community (Wehmeyer & Bolding, 2001). Therefore educational supports that teach adaptive skills are essential, as they will encourage greater independence and community participation for the individual

Knife skills instruction

Knowing how to use a knife is the key foundation skill in culinary art. The knowledge cannot be taught it has to be experienced. Cooking combines knife skills with preparation and application of culinary skills to preferred food options. Different techniques have an influence on food texture, appearance, flavour and mouth feel.

Of primary consideration is each person's safety. Knowing how to hold and carry a knife in the kitchen is an essential. Thereafter knowledge and skill is required to both hold the knife and food items to be cut or chopped. Every task has a relevant knife that has been designed for safe performance. A knife should not to be used generically. And every knife has an individual technique. Its use is dictated by the actual anatomy of the knife and cutting action employed. Knife skills require the person to have developed fine motor skills over time.

Having found a safe position to work in the kitchen, the ergonomics of the person in relation to others, equipment and work space is vitally important to maintain safety parameters. One has to experience the phenomenon and learn to work in a secure location with experience over time.

Postural control is required so the person can work at the correct height, angle and elevation in relation to the work bench. One needs to contend with the differing heights of work benches, chopping boards and food items to find a style which will provide stability for the tasks attempted.

Tactile perception dictates how the individuals touch is developed to handle and hold knives and food stuffs safely. These skills build with regular practice and experience.

Bilateral Co-ordination is required and developed over time to manipulate two sides of the body to work together. Dexterity improves with the continual repetition of tasks over time.

Grip and the security of the food item in relation to the power use to chop or cut needs to be developed over time. Constant continued practice is required to improve fine

motor skills and to develop mastery. Anxiety in relation to fear of cutting oneself can be replaced by confidence and skill one initial steps are carried out precisely and safely. Introduction is the most important aspect.

While the planned intervention was designed to include development of participants' knife skills, it became clear that they would require introductory knife skills training sessions to facilitate their safe and competent participation in the project (M.F. Farrell, personal communication, 10.4.13). This entailed each person securing a chopping board in a safe position in the kitchen. Holding a knife safely, to cut and chop salad ingredients.

Basic Task Analysis for Baseline Measurement of Learners' Skills

Target behaviour
Chop parsley
Content task analysis

Pick up knife and hold correctly with blade facing away at waist level
Place at edge of board in hand
Place food item onto centre of chopping board with other hand
Place in cutting position with index finger across blade and handle firmly gripped
Bring blade onto food item with fingers of other hand at tip of blade
Lift blade of handle up and down over food with other hand maintaining blade tip in same position continually
Repeat while occasionally moving food back to centre of board with blade edge as necessary
Continue until food is in small pieces
Place in container
Clean down

Objective to examine the psychomotor skills of participants to gauge their ability, see what new skills they need and develop an individualised intervention to facilitate their successful progression.

Skills tested include perception, set, guided response, mechanism, complete overt response, adaption and organisation (Bloom & Krathwohl, 1956).

Baseline measurement tells what needs to be learnt, provides information on what they already know, which step to start at, helps to indicate whether steps can be clustered to train full task or steps. In this instance a score of 100% is essential before training can begin.

Due to unsuccessful completion of task by all participants, the primary training objective is for them to become familiar using a chopping knife on a board.
The specific skill is using knife safely in unison with both hands and hitting centre of board with blade. There is no food necessary to be chopped.
Criterion: Build knife skills safely and with confidence.
Criterion of success was achieved through repetitive, segmented sessions.

Video was then used to record students' skills level after up-skilling.

APPENDIX P - STUDY PROTOCOL

The following represents a synopsis of the research process from conception of the original idea right through to the final video recording of participant's final assessment. Significant dates are outlined and the sequence is broken down into individual phases as follows:

Phase One

The primary phase began following an approach by me to people with ID who wanted to learn how to cook. Each individual concerned had previously completed hygiene and food safety training which was delivered by an accredited instructor. These candidates also had completed a healthy nutritional food programme. Both training modules provided empirical evidence of the importance of a balanced diet as a contributing factor in the quality of life for people with ID. I talked to the interested parties including their key workers, care staff, house parents and members of senior management of their SP about their expectations, abilities, worthiness and significance of an investigative culinary intervention.

Phase Two

A research proposal was designed and presented for critique by peers, lecturers and supervisors (4th May 2012). Following their feedback the proposal was further developed and defined

Phase Three

An application for ethical approval to begin the project was made to St Patrick's Committee following consultation with supervisors. Following approval (January 3rd 2013), an application for research approval was made to a Voluntary Care Service Provider (VCSP) Ethics Committee for the people with ID following consultation with supervisors.

Following approval (18th February 2013), an application to commence research was made to the Ethics Committee of the VCSP following consultation with supervisors.

Following approval (16th April 2013), an application was made to senior management and Director of Care of the VCSP for approval to use designated culinary arts areas, seek permission to visit people in their own home and use all associated facilities.

Following approval (18th April 2013), sent proposal information seeking volunteers to families, support staff, care/key-workers in the community.

Phase Four

Sought participants who met criteria from sample through voluntary consent interested in taking part in the project.

Sought permission of parents/ Guardians for their consent to support participants in the project.

Application made to the community and day services staff for their permission to support participants during project.

Spoke to candidates collectively outlining proposal and seeking their level of enthusiasm and their ideas.

Interviewed candidates individually through semi structured interviews in relation to their food likes and dislikes.

Phase Five

I studied feedback from interviews and devised a meal recipe plan that incorporated some of the participants' favourite ingredients which they cooked at home. The meal had to be well balanced and nutritious while also presenting trainees with a challenging level of skill which they had to acquire. It was important that the meal could be prepared in a reasonably short amount of time to make training practical and achievable. Simple recipes were devised without the use of weighing or measurements for participants to learn which contributed collectively to the overall meal. Submitted progress report to St Patricks College (June, 2013).

Devised lesson plans in script and photographic format for candidates in consultation with them (Appendix T).

The researcher began recording events of the research project in a progress (food) journal which was used as a data analysis tool. The journal carried entries over six months of the project from the participant's commencement till their final assessment. The following year a further up date was also entered which inquired into the continued cooking practice of each participant to see if they were still cooking for themselves at home? Entries regarding student's performance were cross referenced with video recordings, progress assessment from key workers and feedback to form an accurate picture of individual's progress.

Carried out assessment of candidates knife skills by demonstrating the safe use of a knife to cut food and examined each participant's execution of these same skills using task content analysis (Appendix R).

Re-devised lessons to improve candidates knife skills prior to cookery lessons. Developed detailed learning objectives, partnered with method, learning strategies, lesson development and execution of training (Appendix T). Lessons consisted of practical demonstration in a restaurant kitchen. Participants were supplied with a supplementary pictorial lesson plan in conjunction with hands on training as an additional guide.

Phase Six

This phase began by teaching candidates in a group format in a restaurant kitchen for a period of eight weeks. These sessions comprised of three sessions per week lasting approximately forty minutes in the morning and again in early afternoon. I developed journals for assessment of participants learning for completion with key workers after each lesson. Key workers assisted participants in recording their understanding of the previous lesson in their journals. They followed a template devised for assessment of the lesson which featured a serious of questions based on it (Appendix T). Key workers recorded participants' answers in their own handwriting. Cal was not very responsive when asked for feedback to the first lesson. He found talking out loud difficult though asked questions from text he preferred to write the response himself. The accuracy by which participants answered their questions informed the trainer as to pace and development of the preceding lesson. Continual evaluation of training enabled continual modification of the next lessons to suit the needs of the student.

Participant's progress was also recorder digitally through the use of an audio visual camcorder (Appendix Q). There were recordings taken for each participant for every step of their training from initial knife skills introduction at the restaurant right through until they were cooking for themselves at home (Appendix W). There was four months recording material for each person in total. The video recorder was stationed in full view of each participant's workstation approximately two metres from them. It was placed on an automatic zoom setting during instruction and they were individually recorded by myself as they cooked in sequence. Instruction classes were recorded bi-weekly for assessment of student's progress, group interaction, level of engagement and performance (Appendix V). The video evidence worked as a critical friend in my assessment of participant's learning. I was able to review each participant's performance. I looked specifically at their eye contact, body language and skill competencies in slow motion repeatedly for every session.

Participants also reviewed their performance collectively and critiqued each other. Review of their video recordings together proved to be a strong motivational tool to improve on their next cooking session. The proceeding lessons in the training cycle were developed incorporating feedback from participants to their key-workers combined and interpreted with video evidence. The cyclical critical lesson planning facilitated the development of participant's culinary skills competency. Competency was demonstrated by participant's execution of a composite meal incorporating an omelette, baked potato, salad, dressing and seasoning in a group setting.

Phase Seven

I travelled to each participant's home and assessed layout, equipment and cooking appliances available for use to them. Assessment of each person's home took two hours and was carried out in the afternoon prior to the arrival of other resident. I ensured there were sufficient space, equipment and utensils to complete their tasks efficiently. I adapted each participant's training to compensate for alternative layouts, electrical appliances and ergonomics. Training at home took place in the absence of housemates but in the presence of a house-parent or care assistant. For each candidate training in their homes took two hours in early afternoons over a four week period. We used their own cups, bowls, cutlery and plates for preparation and cooking.

I trained each participant to the same level of competency as in their group phase. I recorded their progress digitally. I edited the digital material to create a perfect picture of them cooking onto DVD. Each participant played their DVD at home in their leisure time. The learning activity was reinforced by participant's self-generated verbal cuing or self-prompting through the lesson. Participants self-instructed their learning activity. DVD recordings provided them with real simulation of the cooking tasks in the correct sequence. House parents recorded the number of times participants used their portable DVD player to watch their cooking demonstration. It was therefore possible to correlate the standard of their final cooking assessment in relation to the number of times they watched their DVD recording. It was important to determine how efficient use of the portable DVD player had been for participants self-instruction at home.

Phase Eight

Following a two month period after their final assessment and without any further instruction I went back to participant's homes. I wanted to determine if the participant's had maintenance and retention of their skills?

Phase Nine

The participants were continually consulted throughout the project. They were continually shown all the data again including the digital recordings taken over the course of the project. Following the final assessment of the project 12 months on, participants were asked if they were still cooking at home (Food Journal, 7. 4.14).

APPENDIX Q - DIGITAL AUDIO VISUAL RECORDER

Sony High Definition Digital camcorder 1920 x 1080 Full HD video2 and 3-megapixel images with the ultra-compact HDR-CX110, which features an "Exmor R" CMOS sensor for superior low-light performance, and a Carl Zeiss Vario-Tessar 25x optical zoom lens that brings you closer to the action. Plus, the 2.7" touch panel display3 rotates 270 degrees for multiple viewing angles.1920 x 1080 Full High-Definition resolution2. Additionally, this camcorder is capable of 1080/60p playback via HDMI, compatible HDTV3. Low-light sensitivity with improved image clarity and drastically reduced grain with the newly developed, back-illuminated "Exmor R" CMOS sensor. Designed specifically for compact cameras and camcorders, the "Exmor R" CMOS sensor is designed to let you shoot video in lower lighting directly from your camcorder to an external hard disk drive (sold separately), without a computer.

APPENDIX R - CONTENT TASK ANALYSIS SCORE

Content task analysis	Yes	No
Lorry		
Pick up knife and hold correctly with blade facing away at waist level	✓	
Place at edge of board in hand	✓	
Place food item onto centre of chopping board with other hand	✓	
Place in cutting position with index finger across blade and handle firmly gripped	✓	
Bring blade onto food item with fingers of other hand at tip of blade	✓	
Lift blade of handle up and down over food with other hand maintaining blade tip in same position continually		✗
Repeat while occasionally moving food back to centre of board with blade edge as necessary		✗
Continue until food is in small pieces		✗
Place in container		✗
Clean down		✗
Calculation		
Number of steps completed correctly	5	
Number of Steps in Task Analysis	10	
% level of Independence on the task	50%	

Content task analysis	Yes	No
Jordan		
Pick up knife and hold correctly with blade facing away at waist level	✓	
Place at edge of board in hand	✓	
Place food item onto centre of chopping board with other hand	✓	
Place in cutting position with index finger across blade and handle firmly gripped		✗
Bring blade onto food item with fingers of other hand at tip of blade		✗
Lift blade of handle up and down over food with other hand maintaining blade tip in same position continually		✗
Repeat while occasionally moving food back to centre of board with blade edge as necessary		✗
Continue until food is in small pieces		✗
Place in container		✗

Clean down

Calculation

Number of steps completed correctly	3
Number of Steps in Task Analysis	10
% level of Independence on the task	30%

Content task analysis	Yes	No
Jordan		
Pick up knife and hold correctly with blade facing away at waist level	✓	
Place at edge of board in hand	✓	
Place food item onto centre of chopping board with other hand	✓	
Place in cutting position with index finger across blade and handle firmly gripped		✘
Bring blade onto food item with fingers of other hand at tip of blade		✘
Lift blade of handle up and down over food with other hand maintaining blade tip in same position continually		✘
Repeat while occasionally moving food back to centre of board with blade edge as necessary		✘
Continue until food is in small pieces		✘
Place in container		✘
Clean down		✘

Calculation

Number of steps completed correctly	3
Number of Steps in Task Analysis	10
% level of Independence on the task	30%

Content task analysis	Yes	No
Cal		
Pick up knife and hold correctly with blade facing away at waist level	✓	
Place at edge of board in hand	✓	
Place food item onto centre of chopping board with other hand		
Place in cutting position with index finger across blade and handle firmly gripped		✘
Bring blade onto food item with fingers of other hand at tip of blade		✘
Lift blade of handle up and down over food with other hand maintaining blade tip in same position continually		✘
Repeat while occasionally moving food back to centre of board with blade edge as necessary		✘
Continue until food is in small pieces		✘
Place in container		✘
Clean down		✘

Calculation

Number of steps completed correctly	2
Number of Steps in Task Analysis	10
% level of Independence on the task	20%

APPENDIX S - OPERATIONAL FRAMEWORK

The following was an operational framework for this project.

Individualised needs analysis through interview and practical assessment of students current level of interest and practical skills in culinary arts

The design of an appropriate pedagogical meal based on students food preferences, their expectations and predicted potential skills following their completion of intervention

The development of predicted skills through systematic instruction of students in consultation with them, their key workers and advocates to positive outcomes

The design and implementation of an intervention enabling the development of core skill competencies for students through systematic instruction

Creation of short specific lessons from task analysis of all skills required by cohort to execute the pedagogical meal for themselves with pictorial task analysis representation

Delivery of systematic instruction and reinforcement through the medium of short specific lessons geared at the pace of individual students and in consultation with them

Video recording of skills acquisition for students personal development, self-reflection, self-directed learning and assessment

Creation and editing of DVD copy of student's performance for their personal tuition

APPENDIX T - LESSON PLANS

Introduction to knife skills
Finding a safe position in the kitchen
Clean and set up bench
Gather and wash all ingredients
Getting ingredients in correct position to be assembled
Securing chopping board in a safe position
Selecting proper knife for cutting action
Holding knife safely
Holding food item safely to be prepared and sliced
Cutting action for food items such as tomatoes
Slicing action used for lettuce
Chopping action for herbs
Clean up, put away ingredients and wash up.

Knife skills lesson plan 1 introduction feedback with key-worker

Finding a safe position in the kitchen: Where is Safe?
Clean and set up bench: How do I do it?
Gather and wash all ingredients: Why?
Getting ingredients in correct position to be assembled: How?
Securing chopping board in a safe position: How?
Selecting proper knife for cutting action: How?
Holding knife safely: How?
Holding food item safely to be prepared and sliced: How did I do it?
Cutting action for food items such as tomatoes, how is it performed?
Slicing action used for lettuce, how do I do it?
Chopping action for herbs, what is it?
What is the last task?

Knife skills 1 lesson pictorial
Safe place to work in kitchen

Clean, set up

Gather, wash ingredients

Get ingredients in correct position

Securing chopping board in a safe position

Selecting proper knife for cutting action

Holding knife safely

Cutting action and chopping action

Knife skills lesson plan 2

Finding a safe position in the kitchen
Clean and set up bench
Gather and wash all ingredients
Getting ingredients in correct position to be assembled
Securing chopping board in a safe position
Selecting proper knife for cutting action
Holding knife safely
Holding food item safely to be prepared and sliced
Cutting salad items in slices
Peeling onions and slicing
Chopping cucumber
Clean up, put away ingredients and wash up.

Knife skills lesson plan 2 feedback with key-worker

Finding a safe position in the kitchen: Where is Safe?
Clean and set up bench: How do I do it?
Gather and wash all ingredients: Why?
Getting ingredients in correct position to be assembled: How?
Securing chopping board in a safe position: How?
Selecting proper knife for cutting action: How?
Holding knife safely: How?
Holding food item safely to be prepared and sliced: How did I do it?
Cutting action for food items such as salad, how is it performed?
Slicing action used for onions, how do I do it?
Chopping action for cucumber, what is it?
What is the last task?

Making salad lesson plan 2

Safe place to work in kitchen

Clean, set up

Gather, wash ingredients

Get ingredients in correct position

Securing chopping board in a safe position

Selecting proper knife for cutting action

Holding knife safely

Quarter 1 tomato

Slice 1/8 of lettuce head into strips

Slice cucumber into slivers

Chop parsley

Chop spring onion

Dressing lesson plan 3 feedback with key-worker

Finding a safe position in the kitchen: Where is Safe?
Clean and set up bench: How do I do it?
Gather and wash all ingredients: Why?
Getting ingredients in correct position to be assembled: How?
Securing mixing bowl in a safe position: How?
Selecting proper whisk for use: How?
Holding whisk safely: How?
Opening and adding honey, how do I do it?
Opening and adding mustard, how do I do it?
Holding lemon to be sliced, then juiced: How did I do it?
Adjusting seasoning. How?
What is the last task?

Making a honey and mustard dressing

Finding a safe position in the kitchen
Clean and set up bench
Gather and wash all ingredients
Getting ingredients in correct position to be assembled
Secure mixing bowl in a safe position
Select whisk
Add honey
Add mustard
Add lemon juice
Whisk
Add seasoning
Taste
Clean up, put away ingredients and wash up.

Making a honey and mustard dressing

Safe place to work in kitchen

Clean, set up

Gather, wash ingredients

Get ingredients in correct position

Secure mixing bowl in a safe position

Select whisk

Add honey

Add mustard

Add lemon juice

Whisk

Add seasoning

Taste

Clean up, put away ingredients and wash up

Making salad lesson plan 4 Feedback with key-worker

Finding a safe position in the kitchen: Where is Safe?
Clean and set up bench: How do I do it?
Gather and wash all ingredients: Why?
Getting ingredients in correct position to be assembled: How?
Securing chopping board in a safe position: How?
Selecting proper knife: How?
Holding tomato to quarter safely: How?
How to slice lettuce safely?
How to slice cucumber safely?
How do I chop parsley?
How do I cut spring onion safely?
How do I mix, dress and present salad nicely?
What is the last task?

Making salad lesson plan 4 Feedback with key-worker

Finding a safe position in the kitchen: Where is Safe?
Clean and set up bench: How do I do it?
Gather and wash all ingredients: Why?
Getting ingredients in correct position to be assembled: How?
Securing chopping board in a safe position: How?
Selecting proper knife: How?
Holding tomato to quarter safely: How?
How to slice lettuce safely?
How to slice cucumber safely?
How do I chop parsley?
How do I cut spring onion safely?
How do I mix, dress and present salad nicely?
What is the last task?

Making salad lesson plan 4

Safe place to work in kitchen

Clean, set up

Gather, wash ingredients

Get ingredients in correct position

Securing chopping board in a safe position

Selecting proper knife for cutting action

Holding knife safely

Quarter 1 tomato

Slice 1/8 of lettuce head into strips

Slice cucumber into slivers

Chop parsley

Chop spring onion

Season and dress with honey mustard emulsion

Arrange neatly on plate

Clean up, put away ingredients and wash up

Making omelette lesson plan 5

Finding a safe position in the kitchen
Clean and set up bench
Get ingredients and utensils in correct position
Heat dry pan
Crack 3 eggs into a soup bowl and whisk with a fork
When pan is hot add 1 tablespoon of sunflower oil, then beaten eggs
Work the beaten egg with a fork from the outside to the centre of the pan
Tilt pan forward with left hand over heat
Move egg mixture to farthest part of pan away from the handle
Work into cigar shape
Leave to set for 10 seconds
Turn out onto warm plate
Arrange neatly on plate
Clean up, put away ingredients and wash up.

Making omelette lesson plan 5 support assistant work book

Finding a safe position in the kitchen; Where is safe?
Clean and set up bench, how?
What do you need to make an omelette?
What is a dry pan?
How many eggs do you crack into a soup bowl and whisk with a fork
How do you make an omelette?
How long will it take?

Making an omelette plan 5

Safe place to work in kitchen

Clean, set up

Get ingredients utensils in correct position

Heat dry pan

Crack 3 eggs into a soup bowl and whisk with a fork

When pan is hot add 1 tablespoon of sunflower oil then eggs

Work the beaten egg with a fork from the outside to the centre of the pan

Tilt pan forward with left hand over heat

Move egg mixture to farthest part of pan away from the handle

Work into cigar shape

Leave to set for 10 seconds

Turn out onto warm plate

Arrange neatly on plate

Taste

Clean up, put away ingredients and wash up.

Baking a potato lesson plan 6 support assistant workbook

Where is a safe position in the kitchen ?
How does one baked a potato?
For how long?
And then what do you do?
Finally what can you add before eating?
What is the last thing to do?

Baking a potato lesson plan 6

Safe place to work in kitchen

Clean, set up

Gather, wash ingredients

Get ingredients in correct position

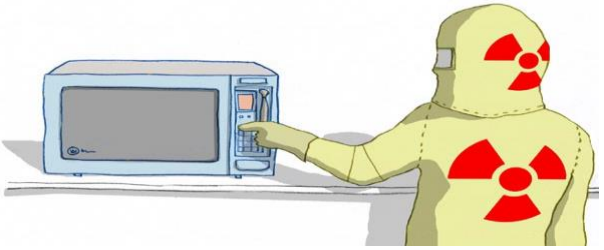
Pierce potato with fork

Open microwave door

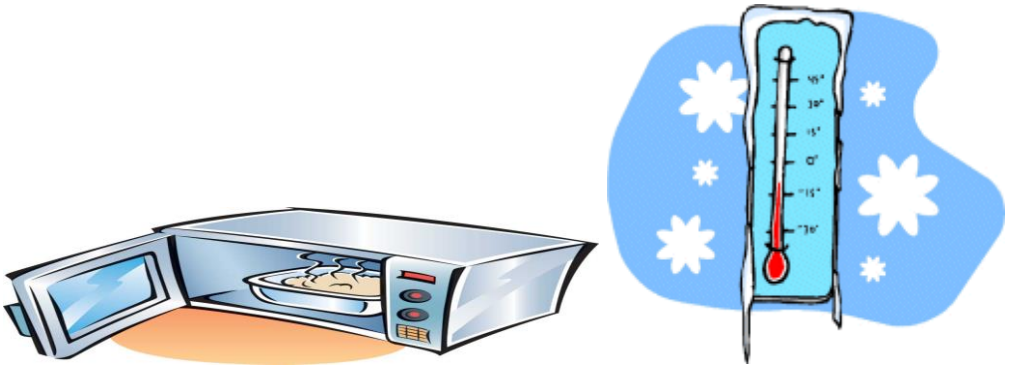
Put potato inside on turntable

And close door

Set timer for .... minutes



Leave to cool for 5 minutes



Remove and serve with black pepper

Taste

Clean up, put away ingredients and wash up.

APPENDIX U – CONSENT OF CARER/ KEY-WORKER PARTICIPATION

…….Consent Form (Provided by Service provider, consent advocacy).

Title of research study: Investigation into the use of video technology, self-modelling and self-prompting as a means of educating people with moderate general learning difficulties in culinary arts in their home.

This study and this consent form have been explained to me. All my questions have been answered to my satisfaction. **I** believe **I** understand what will happen if **I** agree to take part of this study.

I have read, or had read to me, this consent form. I have had the opportunity to ask questions and all my questions have been answered to my satisfaction. **I** freely and voluntarily agree to be part of this research study, though without prejudice to my legal and ethical rights. **I** have received a copy of this agreement.

PARTICIPANT'S NAME: PARTICIPANT'S SIGNATURE:
Date:
Date on which the participant was first furnished with this form:

NAME OF FIRST WITNESS: NAME OF SECOND WITNESS: SIGNATURE: SIGNATURE:

Statement of researcher's responsibility: I have explained the nature, purpose, procedures, benefits, risks of, or alternatives to, this research study. **I** have offered to answer any questions and fully answered such questions. **I** believe that the participant understands my explanation and has freely given informed consent.

Researcher's signature: Date:

APPENDIX V - ASSESSMENT OF PARTICIPANT'S COOKING

Does the person's work area look clean, tidy and organised?
Does the person look, engaged, focussed and competent?
Are their activities relaxed, controlled and purposeful or rushed, erratic and non-sequential?
Is the person expressing verbally what they are doing in the video footage throughout the cooking process?
Are mustard mayonnaise, lemon juice and honey used to make the dressing?
Are these ingredients emulsified by whisking with a fork to create a composite salad dressing?
Are the salad ingredients cut into bite size pieces to make a garnish for the omelette?
Does the proportions of salad ingredients cut by the person and combined to make a salad look appetising to you?
Is the person competent with a knife and do they work safely throughout?
Are the eggs cracked open neatly with the shells placed not on the table, but into an accompanying cooking vessel?
Is the egg white and egg yolk whisked to combine into a uniformly coloured homogenous beaten egg liquid?
Are there white streaks in the beaten egg mixture?
Is oil added to the hot pan prior to the beaten eggs?
Are the eggs added to the pan safely, away from the person with the mouth of the bowl facing the heat source?
Is the beaten egg mixture moved constantly around the pan by the fork as it cooks?
Is the cooking egg mixture corralled towards the farthest corner of the pan away from the handle?
Does this mixture form a cigar shape in the pan?
Is the omelette turned out onto a plate in one piece?
Does it look appetising in your opinion?
Is the salad mixture dressed appropriately prior to combining the omelette on the plate?
Is the potato cut symmetrically on the plate?
Do you think the person was successful in the execution of their culinary arts skills?

Did the cooking sequence commence with baking a potato, followed by making a salad dressing, cracking and beating eggs, making an omelette and finally combining with dressed salad and cooked potato?

Or are there alternative sequences unfolding in the video footage?

In your opinion does the person work rhythmically, systematically and purposefully in the course of their exercise?

Is the person's work area maintained in a safe, organised and clean manner throughout the course of their cooking activities?

Do you think the person successfully employed hygiene and food safety guidelines in the process of their culinary endeavour?

APPENDIX W - ASSESSMENT OF VIDEO PERFORMANCE

Are the area, workbench and board clean and tidy?
Is the person's hands and fingernails clean?
Are they wearing jewellery, rings or watches in the video footage?
Does their garment's infringe or inhibit the cutting action they employ?
Is the person standing in an appropriate, safe and stable manner in relation to the table, chopping board and the work activity they are engaged in?

Is the Lemon held in a secure fashion during the cutting activity?
Does their hand grip the handle of the knife completely during cutting action or is the index finger placed on top of the blade intermittently?
Does the knife make clear incisions into the flesh of the fruit?
Does the person holding the knife look competent in your opinion?
Are their actions carried out in a slow and controlled manner or do they look to be rushing and compromising their own safety?
When cutting is the person using most of the blade's length over the food item or is their cutting action confined to a limited area of the blade?
Would you describe the person's cutting action to be rhythmical?
Are the slices evenly sized and symmetrical?
When the task is complete is the knife placed off the board onto the table?

Is the spring onion held in a secure fashion during the cutting activity?
Does their hand grip the handle of the knife completely during cutting action or is the index finger placed on top of the blade intermittently?
Does the knife make clear incisions into the flesh of the onion?
Does the person holding the knife look competent in your opinion?
Are their actions carried out in a slow and controlled manner or do they look to be rushing and compromising their own safety?
When cutting is the person using most of the blade's length over the food item or is their cutting action confined to a limited area of the blade?
Would you describe the person's cutting action to be rhythmical?
Are the pieces evenly sized and symmetrical?
When the task is complete is the knife placed off the board onto the table?

Is the tomato held in a secure fashion during the cutting activity?
Does their hand grip the handle of the knife completely during cutting action or is the index finger placed on top of the blade intermittently?
Does the knife make clear incisions into the flesh of the fruit?
Does the person holding the knife look competent in your opinion?
Are their actions carried out in a slow and controlled manner or do they look to be rushing and compromising their own safety?
When cutting is the person using most of the blade's length over the food item or is their cutting action confined to a limited area of the blade?
Would you describe the person's cutting action to be rhythmical?
Are the tomato pieces evenly sized and symmetrical?
When the task is complete is the knife placed off the board onto the table?

Did the chopping board look secure or has it moved during the cutting activities?

Would you agree that the person had worked in a sequential, focussed and determined fashion?

APPENDIX X - FINAL MEETING

Jordan said she liked school sometimes but also found it boring. She found doing things better than sitting down. There was a lot in her school. She liked the small group setting. She preferred to cook at home than in an industrial setting (Food journal, 22.06.14).

She now cooks regularly at home. She cooks the recipe once a week for her housemates with assistance from her home- staff. She likes to cook (Food journal, 22.06.14).

Cal liked going to school. He enjoyed reading and sums. He liked learning to cook. Cal cooks at home now. He can cook fish, beans and waffles. He now cooks his own tea in the evenings and cooks his dinner on Saturday. He goes out for dinner on Sundays. He gets support from staff. Cal wrote out his response in our conversation as he talks more openly through writing. Cal preferred to cook at home (Food journal, 22.06.14) .

Lorry did not like school. She liked it sometimes. She liked to watch the dvd player. She preferred cooking in the industrial setting and would like to work as a chef. Lorry enjoyed learning to cook. She now cooks chicken stir fries and sweet and sour pork regularly at home in the evenings (Food journal, 22.06.14).

APPENDIX Y - DATA CONDENSATION IN MATRIX FOR APPENDIX

Cycle 1 (Summer 2014/15) First set of themes at initial recruitment

PARTICIPANT				
THEME	**Jordan**	**Dorry**	**Cal**	**Code**
Desire	Recognised need for more independence	Wanted to live alone	Wanted to cook for oneself	Motivation
Television	Recognised the diversity of foods available	Seen the advantage of spontaneity/ cooking as required	Opportunity for spur of the moment cooking/ time	Need
Experience	Different from primary home, seen wide range of ingredients	Had necessary exposure to many restaurants	Expressed confidence of self-care and displayed discipline of work ethic and ability	Capacity
Emotional	Witnessed that pleasure good food can bring to friends and colleagues	Knew advantage of being more in control of oneself Knew pleasure of dining at home	Experienced the power/pleasure of dining at home	Hedonism/ Desire
Training	Fuelled desire Showed capacity	Freedom Anticipation Self determination	Demonstrated power of self-belief and personal capacity	Motivation
Entertainment	More unexpected No agenda Home or in other houses	Spontaneity Oneself/ friends	Opportunity to take control Set the agenda	Control
Everyday life	Different to current norms Freedom from routine Lack of/release from structure Leaving behind humdrum	More time for own food choices in everyday life Lack of routine More control in everyday life	Pick different foods Eat more fish and salad, eat out more with friends Make it different when you come home for the day	Hedonism/ Desire
Power	Cook for housemates	Cook for myself	Cook what I want	Self-determination
Future	The way I want	My independence	My needs	Control
Menu	Diversity, opportunity, Satisfaction	New future based on own capacity	Want I like	Hedonism/ Desire
Skills	Need for progression	My own place	My way	Self-determination
History	Family visits, dining at home	Personal experience	Recreate feeling	Control
Beginning	Anxiety	Not personal capacity	The feeling of not being able to	Fear
Environment	The heat and excitement	Personal attention	One to one tuition, group dynamic	Self-esteem
Safety	Sharp knives, hot pans, cookers,	Cutting and cooking in real kitchen	The time to do it in the right sequence	Fear

	dials		Watching colleagues Failure	
Learning	Development	Independence	Freedom	Self-esteem
Group dynamic	Visual learning	Respect	Coaching	Socialisation
Speaking	Ease of Access Freedom Independence	Listening to others, learning	Building confidence	Motivation
Participants	Relationship built over time Fitting in Respect Collegiality Encouragement Sharing	Building friendship capacity Encouragement Leading Critiquing Showing	Making friends Talking Interacting Watching	Motivation
Nostalgia	Early relationship	Real home	Like home	Emotion
Novelty (desire for)	Difference	Living alone	Opportunity	Self esteem
Roles	All the answers Celebrity	Mother figure Critic	The pupil The helper	Socialisation
Enjoyment	Satisfaction	Pleasure	Fulfilment/food	Self esteem
Pressure	To achieve To perform, to excel	Awareness of insecurity	Difficulty getting things write then talking about them	Fear
Capacity	Watching, listening, talking, critiquing	Modelling, Coaching	Observing, listening, prompting	Ability, self-esteem, self-control, Self determination

APPENDIX Z- FIRST VIDEO RECORDING

Inter observer reliability				
Actions	Observer 1	Observer 2		
X	x			
X	x	x		
X	x	x		
X	x	x		
X	x	x		
X	x	x		
X	x			
X	x	x		
X				
X	x	x		
X	x			
X		x		
X	x	x		
X	x	x		
X	x	x		
X	x	x		
X	x	x		
X	x			
X	x	x		
X	x	x		
X	x			
X		x		
X	x	x		
X	x	x		
X	x	x		
X	x	x		
X	x	x		
X		x		
X	x	x	sN/LN = 90 %	
X	x			
X	x	x		
X	x	x		
X	x	x		
X	x	X		
34	30	27		

APPENDIX Z1 - SECOND VIDEO ASSESSMENT

Interobserver reliability			
Actions	Observer 1	Observer 2	
X	x		
X	x	x	
X	x	x	
X	x	x	
X	x	x	
X	x	x	
X	x	x	
X	x	x	
X		x	
X	x	x	
X	x		
X		x	
X	x	x	
X	x	x	SN/LN=96%
X	x	x	
X	x	x	
X	x	x	
X	x		
X	x	x	
X	x	x	
X	x	x	
X		x	
X	x	x	
X	x	x	
X	x	x	
X	x		
27	24	23	

APPENDIX Z2- CAL

Cal

Overview

Cal does everything to the best of his ability whether it is dancing or sweeping the floor. He is quiet and confident.

Background

Cal is 51 years old. He was admitted into care aged 5. The memory is still very vivid for Cal and he described spontaneously one day how he arrived at the service provider, he remembered the nurses, care workers present and their uniforms. Cal typed this description onto the key board of a computer. I stumbled upon the fact that he expresses himself much more openly through writing or typing than in conversation accidentally, though he is still not fully literate his script is discernible.

He remained with the same service provider ever since. His family live in the West of Ireland and goes home to visit them at holidays periods. Some family members also visit him during the year. He had an aunt living in Dublin who would call in to visit when he was very young. The aunt was unsure if her visits were of benefit to him because he was very quiet and did not initiate conversation. Reading letters that his Mam sent to the care service, it is clear that there was a lot of uncertainty about his condition and his family were anxious to obtain a thorough description of his condition. Their inquiry focussed specifically on his level of functioning. One gets the impression that his family trusted the medical team implicitly then, whereas now we might be more inclined to seek a second medical opinion.

Early education

Cal attended special school at primary level. Unlike the other people in the project Cal does not possess any physical traits that would indicate his ID. He currently lives in a community home with 3 other people. His parents are now aged in their eighties and his Mam has Alzheimer's. Cal attended special school till 18, then a community training workshop followed by his present placement in a hospitality service.

Ability

Cal was assessed by a psychologist aged 19; he is identified as having had a history of poor social contact with others and previous assessments found him to be functioning in the high moderate range (Clinical assessment, 15.05.1980). He completed schooling and is in a community training centre. He is noted as being compliant with good application to tasks but also withdrawn in his daily demeanour.

Performance

On the BG his drawings fell at the 8-8.5 year old level. While it was not identified in previous assessments on the BG for the others in Cal's assessment the assessor is using an adaption of the BG created by Koppitz specifically for use with young

children to reflect development of visual motor skills, Cal's Frosting Profile showed a strength in the area of spatial relations (Koppitz, 1964). Cal performed with excessive slowness on eye motor co-ordination tasks and frequently stopped during tasks.

Communication

In his everyday environment, Cal does not usually initiate conversation. He responds verbally to the social overtures of others but in a distant manner. On the Reynell Developmental Language scales (revised) Cal obtained a verbal comprehension age of 4.6/12 years- 4.7-12 years, an expressive language age of 5 years-5.2/12 years (Reynell & Curwen, 1977). The scales were administered to determine an individual's production and comprehension of language.

On the full range of Picture Vocabulary Test which was used as a screening method for people with ID, Cal obtained a vocabulary age of 4.9/12 years- 4.10/12 years (Ammons & Ammons, 1948). The test represents 4 pictures on 16 cards from which the participant is asked to pick a picture which best represents the test word spoken by assessor. Responses are scored thus providing a simple method to reflect verbal comprehension of the participant. Analysis of Cal's receptive language found that he mainly had difficulty with requests involving relating and sequencing for a correct response particularly when they contained qualifications. Analysis of his expressive language found that Cal produced immature simple and compound sentences. This is characterised by omissions of function words, word endings and agreements. Cal had begun to use language for logical reasoning and for anticipation.

Reading and Spelling

On the Marino Graded Word Reading Scale Cal obtained a reading age of 7.9 years (O'Suilleabhain, 1970). The Neale Analysis Reading Ability Test is devised to measure the progress of an individual's reading ability (Neale, 1958). On this scale Cal obtained a reading age for accuracy of 7.9/12 years and a reading comprehension of 6.11/12 years. The Daniels and Diack Graded Spelling Test is a standardised test developed to measure a person's spelling ability, on these scales Cal obtained a spelling age of 7 years (Daniels & Diack, 1974).

Number skills

The Vernon Graded Arithmetic Mathematics Test was developed to test a person's mathematical attainment (Vernon, 1966). Cal obtained an arithmetic age of 6.4years. On the Ballard One Minute Tests of Addition and Subtraction he obtained an addition age of 6 years and could not subtract. Cal could order subjects by size and recognise coins (Ballard, 1923).

Adaptive Behaviour

Cal skills are identified as good, although he could not wind a thread evenly around a spool within a time limit or deal with cards. On the Vineland Social Maturity Scale Cal obtained a social age of 7.6 years and a social quotient of 39 (Sparrow, Cocchetti

& Balla, 1984). Cal had reached a reasonable level of independence. Has good personal hygiene and can move independently from one area to another.

Intellectual Functioning

On the Wechsler Adult Intelligence Scale he obtained a performance I.Q. of 63 (Wechsler, 1939). On the Stanford Binet Intelligence Scale he obtained a mental age of 6.6/12 years. Cal is identified as having intelligence at the upper end of high moderate range. His level of non-verbal intelligence was in the mild range and he showed a noticeable language deficit. His progress in the area of social competence is limited by his withdrawn behaviour. Recommendations at the time were to build upon Cal's present skills through developmental programming. To include the use of a broader vocabulary for a variety of purposes, reporting on a present event, reporting on a past event, logical reasoning, predicting, projecting and imagining: Developing a light sweep in eye motor co-ordination tasks. Expanding receptive vocabulary and motor skills practice.

Cal was seen to be of a pleasant, calm, quiet disposition. He was co-operative with a mechanical manner of interaction. Cal's non-verbal skills were seen to be higher than verbal. His speech was slow and he had difficulty pronouncing words and phrases but would ask for assistance. He relied on sight vocabulary and is challenged to tackle phonetically regular words. He can use traffic lights, bus and carry out basic tasks; he can make a light breakfast of cereal and tea. Cal is identified as functioning in the moderate range of intellectual disability.

Recommendations are to encourage prompting to develop his language skills by expanding vocabulary. Cal's non-verbal skills were markedly higher than verbal skills, overall functioning was in the high moderate range.

Progress

Cal is currently based in a hospitality placement where he has learnt a number of skills which provide him with a significant level of independence within a restaurant environment. Cal is popular with peers and is slowing managing to initiate conversations with them. He is a real gentleman and would always move to the side to let a peer pass. He likes to participate in athletics and swimming. He is very competitive athlete and has won numerous medals. He really enjoys dancing at parties. He is very methodical when performing tasks and maintains good concentration. He is really good at activities once he has learnt them but needs supervision to begin with. Among the number of skills he has mastered, he can check delivery of fruit and vegetables. He can decant goods into the correct temperature controlled environment. He can set a table for him and peers for breakfast and lunch. He can prewash, fill and empty crockery and cutlery from a dishwasher.

Cal does not express emotion very often or talk out of turn or cause a commotion. When participating, sharing and training for people with ID often their facial expressions do reflect how they are feeling. The common rules which apply to most

of the human race in regard to their interest, engagement and enthusiasm for an event may not apply. They may demonstrate low levels of interest in the environment and in responsiveness to others (Inclusion Ireland).The cues of attention; engagement and interest which apply for them can be infinitely more subtle and individual. To learn to know each person's individual's traits takes time and they change regularly. This knowledge is a very special code because it is unique. I believe those who possess it find it fulfilling. Evaluation and analysis of this investigation may be most accurately reflected using individual case studies as a prism. By reflecting each individual's role in this research as an individual, in each case study, their unique paths can be identified and given a voice.

Aspirations

Cal is keen to participate in the research programme. He talked about it with his houseparent prior to agreement. The fact that he expressed an interest in the project at home reflected its importance to him. Very often he does not relay messages to staff at home by him, as perhaps they are of no real interest to him. Ca never spoke about wishing to leave independently.

Prerequisite training

Prior to commencement of this project Cal participated in a healthy eating education plan. Training is provided through a workshop delivered in group sessions of 2 hours duration carried over 8 weeks from the 20th of February till the 23rd of April inclusive (Appendix A). Modules focus on healthy food choices, healthy snacks and refreshments, maintaining a food diary, promoting a physical activity diary and also include menu planning (Marks, Sisirak & Heller, 2010). Each person is supported by their key-worker to maintain a food diary. There is no formal assessment at the end of the programme The template for the workshop was gleaned from nutritional research developed specifically for people with an ID (Illingworth, Moore & McGillivray, 2003).

Cal also participated in a food hygiene training course with her peers, delivered by a certified training consultant through the medium of a user friendly workbook (Appendix B). The programme includes instruction by DVD with games and classroom activities. Promoted by the Food Safety Authority of Ireland (FSAI), 'Food Safety and You' is an induction programme which provides people working with food with the knowledge required by law to participate in the operation of a hospitality business (FSAI, 2012).

APPENDIX Z3- JORDAN

Jordan

Overview

Jordan is a quiet confident lady. She participates in many competitive sporting activities and really enjoys the social interaction.

Background

Jordan began her life in a rural community and left her family to come into care. She was enrolled in a special school, primary level, aged 5 and taken into a community home at the same time.

Early education

She has remained with the same service provider ever since. Jordan attended special school till 18, when she moved onto a Rehabilitative Training Centre (RTC) for 2 years. After training there, she got a place in a sheltered occupational workshop, remaining there for 1 year all run by the aforementioned voluntary care body.

Ability

Psychological assessments have estimated Jordan's level of functioning as being within the moderate range of intellectual disability. Jordan has Down Syndrome (DS). DS is the leading genetic reason for ID having a recurrence of 1 in 700 births (Centres for Disease Control and Prevention, 2006). People with DS may also have abnormalities in multiple organ systems, different physical and behavioural features to the general population (Antonarakis and Epstein, 2006). Lorry also has hypothyroidism which can make her feel tired and anxious particularly in the late afternoon (Prasher, 1999). While people with DS share the same similar physical traits, testing for ID is carried out using similar tests and assessments. People with DS generally display IQs between 30 and 70 with a mean near 50 (Chapman, 1999).

Performance

The Bender Gestalt Test (BGT) is another assessment which was used as an instrument to determine the visual motor functioning and perception of children and young adults (Bender, 1938). Testing visual motor performance helps to build a picture when combined with other test of peoples' level of intelligence. The aim is to evaluate the level of maturity of the organic brain, levels of response to stimuli, motivation and organisational ability. BGT is described as an essential tool in the testing of personality (Piotrowski, 1995).The test was developed by Lauretta Bender towards at the end of the 19th century. On the BGT aged 17, Jordan's drawings fell at the 4.10/12 years-4.11/12 years level. On the Full Range Picture Vocabulary Test, she obtained a vocabulary age of 7 – 7.1/12 years. Language is one of the most impaired domains of DS and contributes to barriers to independent living and meaningful inclusion in the Community (Chapman, 2003).

Communication

Further assessment of Jordan's receptive language by means of the Sentence Comprehension Test found that in the context of pictorial materials she could comprehend: Sentences with qualified subjects; plurals; the past tense; sentences; comparatives and superlatives; simple sentences with embedded phrase. Jordan used simple sentences to express a picture, could make simple inferences but found similarities between objects difficult to express. In school she talked with a slight stammer when about to address a group. The importance of having the skill set required for communication is often seen in isolation when it is in fact a key tool for proper integration (Bradshaw and Carnaby, 2002).

Reading and spelling

On the Stanford Binet Intelligence Scale, Form L-M, Jordan obtained a corrected mental age of 5.11/12 years and an IQ of 40 (1972 norms). She could write her name but was unable to cope with the Daniels and Diack Graded Spelling Test. She was unable to read any of the words on the Marino Graded Word Reading Scale. Jordan currently attends literacy classes and is progressing well. People with DS do acquire basic literacy skills but at a much slower pace than typically mainstream population (Abbeduto, Warren & Conners, 2007).

Number skills

Jordan has a grasp of elementary numbers, but was unable to add simple coin values.

Adaptive Behaviour

On the Vineland Adaptive Behaviour Scales with her houseparent as informant, she obtained a Communication Domain age equivalent of 4.11/12 years; a Daily Living Skills Domain age equivalent of 5.7/12 years; a Socialisation Domain equivalent of 5.7/12 years; and an Adaptive Behaviour Composite age equivalent of 5.5/12 years (Sparrow, Cocchetti & Balla, 1984).Jordan's social competence was seen as being in accord with her ability level. There was an increase in problem behaviour when she went home. She was recommended for vocational training.

In 1993 Jordan's Assessment by a senior psychologist found that she had settled well into vocational training. Assessment of her maladaptive behaviour found she was in the non-significant range. A further assessment in 1994 indicated that her performance on the Verbal Reasoning area was somewhat higher- within the upper end of the moderate range of intellectual disability. Her self-help skills indicated that she has good personal hygiene skills, would dress in anticipation of the weather, would travel independently and could make tea or cereal breakfast. During her early years Jordan went home at weekends, then latter just for holidays. Very often she would come back early from family holidays. She would suffer from mild depression following visits home. In the last few years Jordan has built up relationships with her more extended family and now participates in travel, weddings and parties. Jordan's father is now deceased and her mother has Alzheimer's.

Progress

Jordan is currently based in a hospitality enterprise run by her service provider. Her customer care skills are excellent. Jordan has experience of making tea/ coffee in work and at home. In her day service she carries out duties including meeting and greeting restaurant customers, seating them at table and assisting in the service of their meals. She is really well liked by her peers and customers. She attends gym, basketball, swimming and also participates in supported employment at the local sports centre.

Aspirations

Jordan is growing into a very independent individual; she travels to and from her day service by bus, opens her hall door, switches off the alarm and can manage well on her own. She now goes home more regularly at holidays and enjoys activities such as sports and dancing. Her dance troop has appeared on television and they have won a number of awards. She would like to have a paid job but not live independently.

Prerequisite training

Prior to commencement of this project Jordan participated in a healthy eating education plan. Training was provided through a workshop delivered in group sessions of 2 hours duration carried over 8 weeks from the 20th of February till the 23rd of April inclusive (Appendix A). Modules focus on healthy food choices, healthy snacks and refreshments, maintaining a food diary, promoting a physical activity diary and also included menu planning (Marks, Sisirak & Heller, 2010). Each person was supported by their key-worker to maintain a food diary. There was no formal assessment at the end of the programme. The template for the workshop was gleaned from nutritional research developed specifically for people with an ID (Illingworth, Moore & McGillivray, 2003).

Jordan had also participated in a food hygiene training course with her peers, delivered by a certified training consultant through the medium of a user friendly workbook. The programme included instruction by DVD with games and classroom activities. Promoted by the Food Safety Authority of Ireland (FSAI), 'Food Safety and You' is an induction programme which provides people working with food with the knowledge required by law to participate in the operation of a hospitality business (FSAI, 2012).

APPENDIX Z4- LORRY

Lorry

Overview
Lorry is a friendly and hardworking character.

Background

Now 35 years old, Lorry started her education at a special preschool for children with ID aged 4 years old. Lorry had been diagnosed with Resolved Hydrocephalus, which had caused by an abnormal accumulation of cerebrospinal fluid within the ventricles of the brain (Fudge, 2002). This still affects her gait and Lorry falls frequently when out walking. She was assessed as being in the upper range of moderate intellectual disability.

Early education

Aged 5 Lorry progressed to special school, primary level which was run by a voluntary care service provider. Eventually at 11 years old, she became a community resident of the same service provider. Following her residential placement, she would only travel home to stay with her family at weekends. At 13 years old Lorry attended special school at second level. Contact with her family diminished from then on and she would only spend holiday periods at home in the following years.

Ability

Symptoms of Lorry's condition meant that she had difficulty sleeping, concentrating and eating. Therefore she was always underweight as a child and smaller than other peers of a similar age. Her progress was monitored continually by a multi-disciplinary team and she was required to fulfil a number of tests to quantify her progress and level of functioning. These tests included the Stanford Binet Scale (SBS). The SBS was devised and revised over the last 100 years as an instrument to measure an individual's intelligence (Binet & Simon, 1905). It involved testing areas of a person's reasoning, vocabulary and ability to solve problems as a predictor of their academic capability.

Performance

The 4th edition was the most recent up to date instrument in 1991 based on the latest theories of psychometrics and the structure of intelligence. It was designed as a four factor hierarchical model of intelligence and broken into 15 subtests including Abstract/ Visual Reasoning (A/VR), Short Term Memory (STM) and Quantitative Reasoning (QR) (Thorndike, Hagen & Sattler, 1986). Testing of Lorry on the Stanford Binet Scale 4th edition aged 12 years and 4 months indicated that she functioned within the mid moderate range. She performed slightly better on the A/VR scale, but failed to score on the number series subtest in the area of QR and the memory for digits subtest on the STM scale (Clinical assessment, 18.7.1991).

Reading and spelling

The Marino Graded Word Reading Scale was developed as an instrument to measure the reading level ability of young children (O'Suilleabhain, 1970).Lorry failed to recognise any letters or words on the Marino Scale. She was able to write her first name.

Number skills

From a numerical perspective ground breaking work by Ballard 'Teaching the Essentials of Arithmetic' (1928) led the way in assessment of young peoples' mathematical learning and assessment. Tests were conducted in a specific time period and answers were provided by recipients orally. On the Ballard One Minute Test Lorry obtained an addition age of below the 5 year level and a subtraction age of 5 years (Ballard, 1923).

Adaptive Behaviour

Vineland Adaptive Behaviour Scales were developed to test an individual's adaptive skills for success in educational, community and residential placement. Lorry's performance on the Vineland Adaptive Behaviour Scale with her houseparent as informant was in line with her overall ability (Sparrow, Cocchetti & Balla, 1984). On the Communication Domain she performed poorly but her vocabulary was very good. At the time of the assessment she was recognised as having good self-help skills, personal hygiene, but no concept of money. Lorry seemed to be progressing well in school and in home placement, but there was a need for her further academic and social education. In conclusion at that specific time of assessment, she was found to be undersized for her age. Academic skills were weak and Lorry needed to work hard in school (Clinical assessment, 18.7.1991).

Progress

Twenty two years later Lorry has worked extremely hard, and was elected to be an advocate for her peers on the service user council. This body consults with senior management of her care provider in relation to the running of their services. Following special school Lorry attended vocational training and thereafter she spent 5 years at a sheltered occupational workshop. Lorry really enjoys sport particularly swimming which she does regularly. She has won a gold medal at the Special Olympics.

Now Lorry is learning hospitality skills which may help improve her employment opportunities. She is very competent in her training area which is a café providing light breakfast snacks and lunch. Lorry's day service placement functions as a staff dining area for the Health Service Executive (HSE). The café area where she is based functions as a Day Activation Centre (DAC); the service is essentially a care service that provides personal support and developmental needs. The range of supports in a day service vary but can include occupational therapy, speech and language therapy, basic numeracy, literacy, as well as social and recreational activities (DOHC, 2005).

Aspirations

From her DAC Lorry has access to work experience, gym, dance and sporting activities. Her customer care skills are excellent and she can use the coffee machine to make espresso and cappuccino. While based there she also works in retail periodically on a part time bases in a flower shop. Lorry has been previously supported in employment externally in a supermarket on a part time bases for a short period. She would like to become more independent and find external employment.

Lorry is attending external literacy classes. She is now spending greater periods with her family and wants additional independence. Lorry has requested an alternative placement on a trial period as part of her own personal development. She volunteered to participate in the culinary arts project and while she remained focussed throughout, she was very apprehensive prior to commencement and worried that she would not be able to cook (M.F. Farrell, personal communication, 8.4.13).

Prerequisite training

Prior to commencement of this project, Lorry participated in a healthy eating education plan. Training was provided through a workshop delivered in group sessions by team members of the service provider for 2 hours duration carried over 8 weeks from the 20th of February till the 23rd of April inclusive. Modules focus on healthy food choices, healthy snacks and refreshments, promoting a physical activity diary and also include menu planning (Marks, Sisirak & Heller, 2010). Each person participating is supported by a key-worker to maintain a food diary. There is no formal assessment at the end of the programme. The template for the workshop is gleaned from nutritional research developed specifically for people with an ID (Illingworth, Moore & McGillivray, 2003).

Lorry also participated in a food hygiene training course with her peers, delivered by a certified training consultant through the medium of a user friendly workbook. The programme included instruction by DVD with games and classroom activities. Promoted by the Food Safety Authority of Ireland (FSAI), 'Food Safety and You' is an induction programme which provides people working with food with the knowledge required by law to participate in the satisfactory operation of a hospitality business (FSAI, 2012).