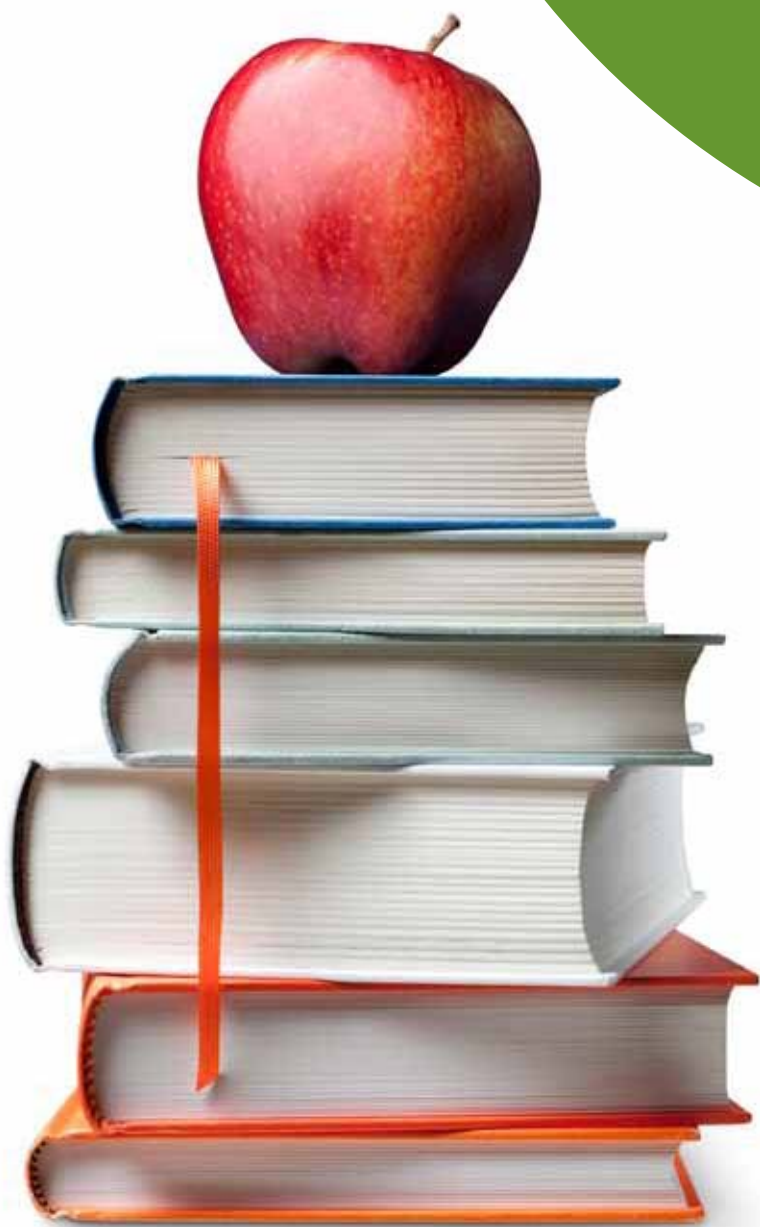


Primary School
Teachers' experiences
of teaching healthy
eating within the
curriculum



SCoTENS
THE STANDING CONFERENCE ON
TEACHER EDUCATION, NORTH AND SOUTH

Primary School Teachers' experiences of teaching healthy eating within the curriculum

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Executive Summary

Introduction

The primary school setting offers an ideal environment for educating children with regard to healthy eating. Information pertaining to food and nutrition is a compulsory element of the primary school curriculum across Ireland, within both the Personal Development and Mutual Understanding (PDMU) curriculum in Northern Ireland (NI) and the Social, Personal and Health Education (SPHE) curriculum in the Republic of Ireland (RoI). To date in both jurisdictions there is a dearth of information pertaining to teachers' experiences of teaching the food and nutrition related content of either curriculum.

As a consequence, this cross-border research project was conducted by the Home Economics Department, St. Angela's College, Sligo and the School of Education, University of Ulster, Coleraine, with the assistance of SCOTENS funding. The main purpose of the study was to ascertain teachers' perceptions of teaching the food and nutrition related material, and based on their classroom experiences to ascertain the supports required for the enhanced teaching and learning of this area. The first phase of field research was undertaken between January and June 2009. The second phase of research was executed between March and May 2011. It is envisaged that the results from this study will be useful in identifying areas where further support/continuous professional development (CPD) for teachers might be required and may be a starting point for the design of resources to meet these needs.

Research Process

A two phase mixed method explanatory design was utilised for this study. Firstly, a quantitative non-random approach was employed, encompassing a questionnaire designed by the research team and administered to primary school teachers across the island of Ireland. The aim of the questionnaire was to investigate the perceptions, knowledge, attitudes and experiences of primary school teachers with regard to their teaching of healthy eating and food related issues. The questionnaire consisted of four parts: personal profile, school policy and practice, teaching and learning, and resources and support. All quantitative results were analysed using SPSS Version 17 while the open-ended questions were analysed using a qualitative thematic approach.

For the second phase, the qualitative data collection consisted of 10 face-to-face interviews with primary school teachers in Northern Ireland (NI) and Republic of Ireland (RoI). The aim of the interviews was to give a closer focus on the strengths and weaknesses of the teaching of healthy eating related material and of the environmental circumstances in which these lessons are conducted.

Results and Findings

There were a number of commonalities evident in the reported experiences of teachers across both jurisdictions which have implications for both initial teacher education as well as future collaborative CPD initiatives.

Knowledge

Regardless of the location, most of the teachers reported their personal knowledge of nutrition as either 'excellent' or 'very good'. In spite of this, they then went on to rate their self-efficacy in the teaching of food and nutrition as 'moderate'. This may have been due to the fact that many of the teachers were relying on their initial teacher education for their knowledge of food and nutrition. Notably, over a third of the total cohort had been teaching for more than 16 years.

Experiences

In both NI and the RoI the majority of the schools had a healthy eating policy. The healthy eating policy was viewed as important in consolidating learning on healthy eating within the classroom. However very few schools were in receipt of funding to support the operation of the policy. In both jurisdictions most schools had strong parental support for the implementation of the healthy eating policy. Teachers employed a variety of active learning methodologies in the teaching of this area, but many highlighted that it was not always possible to undertake practical food sessions due to a lack of resources and facilities. Interestingly, nutrition education interventions such as *Food Dudes* in the RoI and *Bright Bites* in NI were very popular and these were also viewed as complementing teaching and learning in the area. With regard to resources, it was evident that the majority of teachers did not have a coherent textbook specifically for SPHE or PDMU.

Attitudes

Across the island of Ireland teachers rated the work carried out on food, health and nutrition within the curriculum as 'very relevant' to pupils' lives. The teachers were also very positive about the healthy eating policy and rated it as having an 'excellent' or 'very good' impact on pupils' eating behaviour and health attitudes. Despite issues of curriculum overload and time constraints the teachers themselves enjoyed teaching the content.

Implications for Teacher Education

The fact that many of the teachers are relying on their initial teacher education for their food and nutrition related subject knowledge is a cause for concern. This finding highlights the requirement for ongoing in-career development for teachers, especially given the fact that many of the teachers are teaching for a good number of years. It is also evident from the results that there is a need for coherent teaching resources such as textbooks, DVDs and interactive computer games to be developed in order to enhance the teaching of this area. Furthermore, in order to encourage engagement in active learning methodologies, nutritionally balanced recipes suitable for use in the classroom situation as opposed to a kitchen need to be developed and disseminated.

Chapter One

1.0 Introduction

It has been established that overweight and obesity levels amongst children are escalating. The World Health Organisation (WHO) *Childhood Obesity Surveillance Initiative 2008* reported that 22% of Irish seven year olds were either overweight or obese (Department of Health and Children, 2009). Similarly, the *Growing up in Ireland 2009* study found that one in four nine year olds were either overweight or obese (Williams et al., 2009). Childhood obesity is associated with an increased risk of premature death and disability in adulthood (WHO, 2006). Whilst physical activity levels are a cause of concern, so too are the eating habits of Irish children.

The primary school setting offers an ideal environment for the educating of children regarding healthy eating. Information pertaining to food and nutrition is a compulsory element of the primary school curriculum across Ireland, within both the Personal Development and Mutual Understanding (PDMU) curriculum in Northern Ireland and Social, Personal and Health Education (SPHE) curriculum in the Republic of Ireland. While other non-core subjects within the primary curriculum such as PE (Capel, 2007; Griggs, 2007; Griggs & Wheeler, 2007) and CSPE (Thornton, 2002; Adams, 2005) have been well researched – and while some research has recently been conducted on teachers views of PDMU in NI (Long & Mc Polin, 2010) and SPHE in post primary schools in Rol (Nic Gabhainn et al. 2010 – neither of these studies addresses in detail the issue of how healthy eating is taught within the revised primary school curriculum in either jurisdiction.

Hence it was deemed appropriate to investigate how teachers across the island of Ireland translate their respective syllabi into practice. In addition, it was considered useful to determine levels of satisfaction with food and nutrition related course content, teaching resources available and access to relevant current nutrition information, with a view to identifying barriers to effective teaching of the syllabus material and to quantifying issues of concern which are common to teachers within both jurisdictions.

According to Higgins et al. (2008), the school environment has a key role to play in promoting healthy behaviour. The delivery of programmes in schools such as SPHE and PDMU, which aim to support personal development, health and wellbeing and the development of supportive relationships, present an ideal opportunity to address pertinent health issues (Higgins et al., 2008). This chapter will present an overview of food, nutrition and healthy eating within the SPHE and PDMU curricula.

1.1 SPHE in the Primary School Curriculum in the Republic of Ireland

The revised Primary School Curriculum was published in 1999 (DoE, 1999a). Social, Personal and Health Education (SPHE) is one of six curriculum areas. The others are Language, Mathematics,

Social, Environmental and Scientific Education (SESE), Arts Education and Physical Education. As the following statement indicates, the Department of Education recognises the unique role of SPHE in the holistic development and overall wellbeing of children:

...while all curriculum areas contribute to the development of the child, Social, Personal and Health Education provides specific opportunities to enable the child to understand himself or herself, to develop healthy relationships, and to establish and maintain healthy patterns of behaviour.

(DoE, 1999a, p. 57)

Within the various curriculum areas, the term 'strand' is used to denote the principal division of content within the area (DoE, 1999a). The SPHE curriculum is presented in three strands: 'Myself', 'Myself and Others' and 'Myself and the Wider World'. Over the eight years of primary schooling, the strands of SPHE are thereafter broken down into four levels, each level equating to a two-year time period: infant classes, first and second classes, third and fourth classes and fifth and sixth classes. While suggested content to be taught is listed for inclusion for each level, flexibility of approach is emphasised in order that the programme be 'made to suit individual schools and sets of circumstances' (DoE, 1999b, p. 5).

The curriculum document lists six aims of the SPHE programme, and two of these pertain specifically to nutrition education and healthy eating:

- To promote the personal development and well-being of the child
- To promote the health of the child and provide a foundation for healthy living in all its aspects.

(DoE, 1999b, p.9)

Following on from the aims, a total of 15 broad objectives are outlined, including to:

- Develop an understanding of healthy living, an ability to implement healthy behaviour and a willingness to participate in activities that promote and sustain health.

(DoE, 1999b, p.10)

Within the SPHE curriculum document, further detail is indicated as to how these specific aims and objectives might be achieved. Specific reference is made to nutrition and healthy eating in the strand unit 'Taking care of my body' within the 'Myself' strand at each of the four curriculum levels. It is clear that the selection, depth and detail of content concerned with issues of nutrition and healthy eating develops in line with the level of the curriculum.

At the first level, for infant classes, 'Food and nutrition' is one of two strand units, the other being 'Knowing about my body'. Four outcomes are listed within 'Food and nutrition' as follows:

The child should be enabled to:

- Become aware of the importance of food for growth and development;
- Explore food preferences and their role in a balanced diet;

- Discuss and explore some qualities and categories of food;
- Realise the importance of good hygiene when preparing food to eat.

(DoE, 1999b, p. 17)

Similarly, at the next level which deals with first and second class, 'Food and nutrition' again forms one of two strand units. As before, four outcomes are listed:

- Explore the importance of food for promoting growth, keeping healthy and providing energy;
- Appreciate that balance, regularity and moderation are necessary in the diet;
- Identify some of the foods that are derived from plant and animal sources;
- Recognise and practice good hygiene when dealing with food.

(DoE, 1999b, p. 27)

Notably, it is at this level that the 'food pyramid' is introduced as a concept in relation to balance, regularity and moderation in the diet. It is developed further at the next level of the curriculum during third and fourth class, where 'Food and nutrition' is once more a strand unit. It is apparent that the complexity of the subject matter being addressed is building upon the concepts which were introduced during the earlier stages of the curriculum. For example, we see that the exploration of the child's own dietary needs becomes a focus at this stage, and that hygiene in relation to food preparation moves beyond a recognition of it being an important aspect of food preparation to a more meaningful engagement with why it is important, as illustrated by the learning outcomes:

- Differentiate between a healthy and an unhealthy diet and appreciate the role of balance and moderation;
- Recognise the wide variety of food available and categorise food into the four main food groups and their place on the food pyramid;
- Examine the dietary needs of his/her own age group and other groups in society;
- Explore some factors that influence the consumption of different food products;
- Discuss and examine the importance of proper food hygiene.

(DoE, 1999b, p. 40)

Finally, at the fourth level, when the child has reached fifth and sixth class, a broader and more detailed listing of learning outcomes for 'Food and nutrition' within the strand unit is apparent. Notably, the concept of 'personal responsibility' in relation to food choice is a feature of the second learning outcome, as indicated in the following extract:

- Appreciate the importance of good nutrition for growing and developing and staying healthy;
- Realise and accept some personal responsibility for making wise food choices and adopting a healthy, balanced diet;
- Recognise some of the important nutrients that are necessary in a balanced diet and the food products in which they are found;
- Explore the factors that influence food choice;

- Explore and examine some of the illnesses particularly associated with food intake or special health conditions;
 - Become aware of the importance of hygiene and care in the preparation and use of food.
- (DoE, 1999b, p. 57)

In summary, the SPHE primary curriculum, when viewed over an eight year continuum, introduces children to the key concepts of nutrition, food choice, healthy eating, and hygiene. Indeed, Weichselbaum, et al. (2011) state that the curriculum empowers students to recognise and accept responsibility for food choices and adopt a healthy balanced diet. The curriculum document clearly advocates the need for learning opportunities for SPHE to occur not only within discrete periods in the classroom setting, but rather through a combination of three ways. The first of these alludes to a 'whole school' (St. Leger and Nutbeam, 2000; Inchley et al., 2006) approach: 'in the context of a positive school climate and atmosphere'; the second specifies discrete classroom time; and the third refers to an 'integrated approach' (DoE, 1999b, p.1). The recommended minimum weekly time to be devoted to the teaching of SPHE is 30 minutes for all levels (DoE, 1999a) which could be considered insufficient when the range and scope of the subject matter to be covered is taken into account.

1.2 PDMU in the Primary School Curriculum in Northern Ireland

In Northern Ireland, since the introduction of a Common Curriculum in 1990, two revisions of the curriculum have taken place, one in 1996 and the other in 2007. The Primary Curriculum was published by the NI Council for the Curriculum Examinations and Assessment (CCEA) in 2007, and was formalised on a statutory basis by The Education (Curriculum Minimum Content) Order (NI) the same year.

Personal Development and Mutual Understanding (PDMU) is one of six curriculum areas, which are referred to in the document as 'Areas of Learning' (CCEA, 2007, p. 2). The other five Areas of Learning are: Language and Literacy; Mathematics and Numeracy; The Arts; The World Around Us and Physical Education. Of interest to this paper is the fact that in the rationale for revision of the curriculum provided in the opening paragraph of the document, PDMU is referred to specifically as an area which was considered worthy of greater treatment:

The revisions to the curriculum aim to retain the best of current practice while seeking to give greater emphasis to important elements, such as children's Personal Development and Mutual Understanding and the explicit development of Thinking Skills and Personal Capabilities.

(CCEA, 2007, p. 2)

The curriculum document sets out an overarching aim and objectives for the curriculum as follows:

Aim

The Northern Ireland Curriculum aims to empower young people to develop their potential and to make informed and responsible choices and decisions throughout their lives

Objectives

The learning opportunities provided through the Northern Ireland Curriculum should help young people to develop as: Individuals; Contributors to Society; and Contributors to the Economy and Environment.

(CCEA, 2007, p. 4)

The seven-year curriculum is divided into 'Stages', of which there are three. The Foundation Stage denotes years one and two; Key Stage 1 denotes years three and four; Key Stage 2 denotes years five, six, and seven. Following a general introduction, which also provides an overview of such aspects as approaches to learning and teaching as well as assessment for learning, the curriculum document presents the six Areas of Learning during each of the Key Stages. Integration across areas is encouraged, and flexibility regarding content selection and approach is emphasised:

Teachers have considerable flexibility to select from within the learning areas those aspects they consider appropriate to the ability and interests of their pupils.

(CCEA, 2007, p. 2)

At the Foundation Stage, PDMU is sub-divided into two strands namely: Personal Understanding and Health and Mutual Understanding in the Local and Wider Community. Personal Understanding and Health as a strand contains three further subdivisions with outcomes related to Feelings and Emotions, Self-Awareness and Health and Safety; and in each of the latter two there is reference to aspects of food, nutrition and healthy eating. For example, under the subdivision Self-Awareness, "Identifying their favourite things, for example, their favourite stories, TV programmes, foods, activities in school, their likes and dislikes" is included (CCEA, 2007, p. 41). Within Health and Safety, "being aware of how to care for his/her own body in order to keep it healthy and well, for example, by talking about foods which are healthy, by talking about the importance of regular exercise and physical activity, the need for rest and adequate sleep" and "recognising and practicing basic hygiene skills, for example, hand washing before meals and after going to the toilet, hygienic eating habits, developing basic skills in dressing himself/herself" are listed (CCEA, 2007, p. 41). While Mutual Understanding in the Local and Wider Community primarily addresses relationships, within this it is good to see reference to the social aspect of food in the Relationships with Families section as follows: "talking about what families do together, for example, family mealtimes, shopping activities, what members of the family do for each other"

(CCEA, 2007, p. 42).

Following on from the Foundation Stage, the next part of the curriculum document presents information on each of the Areas for Learning for Key Stages 1 and 2 together. For PDMU, it is in this section that a statement defining the focus and role of PDMU is outlined, as follows:

Personal Development and Mutual Understanding focuses on encouraging each child to become personally, emotionally, socially effective, to lead healthy, safe and fulfilled lives and to become confident, independent and responsible citizens, making informed and responsible choices and decisions throughout their lives.

(CCEA, 2007, p. 91)

Six intended outcomes arising from PDMU are thereafter outlined, one of which relates directly to food, nutrition and healthy eating where it is stated that “through PDMU, children can develop understanding of the benefits and the importance of a healthy lifestyle” (CCEA, 2007, p.91). As was the case at the Foundation Stage, for both Key Stage 1 (KS1) and Key Stage 2 (KS2) PDMU is divided into two strands. Within Strand 1: Personal Understanding and Health, direct reference is made to aspects of food, nutrition and healthy eating as follows:

Health, Growth and Change (KS1)

- Recognising and valuing the options for a healthy lifestyle, including the benefits of exercise, rest, healthy eating and hygiene.

Health Growth and Change (KS2)

- Understanding the benefits of a healthy lifestyle, including physical activity, healthy eating, rest and hygiene;
- Understanding that bacteria and viruses affect health and that risks can decrease when basic routines are followed.

Notably the cultural aspect of food returns as a theme in Key Stage 2 in Strand 2 within Mutual Understanding and Wider Community: “recognising the similarities and differences between cultures in Northern Ireland, for example, food, clothes, symbols, and celebrations” (CCEA, 2007, p.97).

In summary, the PDMU primary curriculum deals with issues of food, nutrition and healthy eating from the Foundation Stage through to KS2. As may be gleaned from the above account, it does so in considerably less detail than the corresponding SPHE curriculum document in the RoI. Waldron et al. (2009) suggest that the move towards a less prescriptive approach to content is a defining feature of the revised NI curriculum; and in our opinion, it is in this regard that it also differs substantially from the RoI curriculum. There are, however, some commonalities between the two syllabi, and these centre on the approaches to teaching and learning outlined in both the SPHE and PDMU curriculum documents. This will be the focus of the section that follows.

1.3 Approaches to Teaching and Learning within SPHE and PDMU

McMorrow (2006) indicates that constructivist theories, particularly those of Piaget (1952), were highly influential in informing the 1971 RoI primary school curriculum (Department of Education, 1971). Johnston et al. (2007) refer to the fact that constructivist learning theory is also drawn on and reflected in the principles of learning enshrined within the revised RoI 1999 curriculum; and indeed the Department of Education and Science (1999a) also acknowledges that the principles of the 1971 Primary Curriculum were a guiding feature of the revised curriculum.

It is not surprising, therefore, that a variety of approaches to teaching the curriculum are advocated as strategies across the curriculum areas, including SPHE, where active learning is highlighted: '... active learning is essential to the SPHE programme' (DES, 1999a). In the context of the present discussion, it is interesting to note that in relation to approaches and methodologies, in a list of suggested teaching there is *no reference* to practical food preparation activities. In light of the learning outcomes expressed and the subject matter listed, it would appear that this is an issue of concern, particularly given the fact that the document is prescriptive in its approach. It should however be acknowledged that Weichselbaum, et al. (2011) state that although practical culinary skills are not highlighted in the curriculum document, there are guidance documents available to teachers to assist the planning of appropriate activities.

In the NI curriculum (CCEA, 2007) active learning approaches are advocated very clearly in the introduction to the document where a 'Plan, Do, Review' (CCEA, 2007, p. 10) approach is advocated for both the work and learning.

While it is less detailed regarding content than the SPHE curriculum document, the PDMU document is very clear of the necessity for active learning within the PDMU Area of Learning:

As Personal Development and Mutual Understanding is very much about the development of values and attitudes, it is extremely important that children have an opportunity to develop these naturally as a consequence of their investigations and guided critical reflection on issues. Learning should therefore be active, with children being encouraged to investigate issues for themselves, to suggest solutions and to make decisions based on what they have learned.

(CCEA, 2007, p. 92)

1.4 Conclusion

This chapter has presented an overview of the curricular areas SPHE and PDMU, each of which is now a statutory component of the primary school curriculum in the RoI and NI respectively. Food, diet and health feature prominently within both curricula. Despite the differences in duration of the primary stage in the two jurisdictions (primary schooling taking place over 8 years in RoI and 7

years in NI), it is apparent that teaching and learning about food, nutrition and healthy eating within each document share many features. Similar content is presented in each curriculum, with broad concepts being introduced at entry level and more detailed subject matter being developed as the child progresses through the school, as outlined above. The crucial role of this curriculum content at primary school level will be examined in the following chapter.

Chapter Two

2.0 Introduction

In order to provide context for the study it is necessary to acknowledge the importance of adequate nutrition during childhood, outline current eating habits of Irish children and explain the role of nutrition education within the primary school setting in empowering positive dietary change.

2.1 Childhood Nutrition

It is the position of the American Dietetic Association that children ages 2 to 11 years should achieve optimal physical and cognitive development, attain a healthful weight, enjoy food, and reduce the risk of chronic disease through appropriate eating habits and participation in regular physical activity

(American Dietetic Association, 2008, p. 1038).

Nutrition during childhood is of paramount importance if children are to achieve their full genetic potential for growth, development and health (Brown, 2007). Unless the requirements for energy and essential nutrients are met, growth and development may be compromised with lasting health consequences (Mann & Trusswell, 2002). Indeed, appropriate nutrition and the establishment of healthy eating behaviours can help to reduce the risk of children developing chronic conditions such as obesity, non-insulin dependent diabetes or cardiovascular disease and other long-term health problems in adulthood (Brown, 2007; American Dietetic Association, 2008). It is also widely documented that children are a potentially nutritionally vulnerable group. This is due to the fact that inadequate intakes of energy and essential nutrients may compromise growth and development to such an extent as to cause lasting consequences (Mann & Trusswell, 2002). During childhood mean growth remains relatively constant averaging at 2.5kg and 6cm per year (Barasi, 2007). This weight gain increases rapidly as the child nears puberty, reaching 4kg per year by age 10 years (Caballero et al., 2003). Healthy food choices in childhood can assist in the prevention of nutritional deficiencies such as iron deficiency anaemia and osteoporosis in later life (American Dietetic Association, 2008). According to the American Dietetic Association (2008), dietary guidance for children has extended its focus from issues of under-consumption and nutritional deficiencies to concerns pertaining to over consumption.

The prevalence of overweight and obesity is escalating rapidly in children (Barasi, 2007). The World Health Organisation *Childhood Obesity Surveillance Initiative 2008* reported that 22% of Irish seven year olds were either overweight or obese (Department of Health & Children, 2009). Similarly, the *Growing up in Ireland 2009* study found that one in four nine year olds were overweight or obese (Williams et al., 2009). Childhood obesity is associated with an increased risk of premature death and disability in adulthood (WHO, 2006). It is also linked with increased risk factors for cardiovascular disease, atherosclerosis and insulin resistance (Thomas & Bishop, 2007).

Indeed, the current trends are translating into a higher incidence of non-insulin diabetes in obese teenagers (British Nutrition Foundation, 2009). Obese children tend to be unpopular amongst classmates and this adversely affects their self-esteem (Mann & Trusswell, 2002). The psychological anguish and the physical disability of actual overweight can contribute to underachievement at school (Geissler & Powers, 2005). Unfortunately, obese children are more likely to become obese adults and in turn have children who will become obese (Geissler & Powers, 2005). According to Mann & Trusswell (2002), successful avoidance of adult obesity has its roots in the prevention and management of childhood obesity. Consequently, the possibility that eating practices acquired in childhood will persist in later life is probably the most important justification for promoting healthy eating guidelines (Mann & Trusswell, 2002).

2.2 Eating Habits of Irish Children

It would appear that the eating habits of children on the island of Ireland are a cause of concern. With regard to the RoI, the *Health Behaviour in School-aged Children (HBSC) Study (2006)* reports that the consumption of fruit among children persists as a major public health challenge (HBSC, 2006a). The study also revealed that the majority of school children are not likely to be meeting the recommended servings of vegetables per day (HBSC, 2006b). *The National Children's Food Survey 2005* also conducted in the RoI highlighted that children mainly consumed white bread, processed meat and had a low intake of fruit and vegetables. The children had low intakes of fibre, calcium, iron and vitamins A, C, D and folate (IUNA, 2005). Results revealed that one fifth of children's calories were obtained from biscuits and other high fat treats. In addition, the survey highlighted that 11% of boys and 12% of girls aged 5-12 years were overweight and 9% of boys and 13% of girls were obese. Between 1995 and 2005 obesity increased in boys aged 8-12 years from 6%-8% and in girls from 5%-14% (IUNA, 2005).

Similar trends are also apparent in NI. According to the NI *Health and Social Well-being Survey (2005/2006)* 8% of boys and 7% of girls were obese while one in four children were either overweight or obese (Northern Ireland Statistics & Research Agency, 2007). *The Young Persons' Behaviour and Attitudes Survey (2003)* conducted with 11-16 year old children in NI revealed that 67% of participants ate chocolate bars or biscuits and 31% ate chips, while nearly two thirds consumed fizzy drinks at least once a day. Furthermore, consumption of fruit and vegetables was quite poor (DHSSPSNI, 2005). According to the British Nutrition Foundation (BNF) (2009), a recent national food survey of children in the UK revealed that average intakes of saturated fatty acids and salt exceeded government targets, with sugar intakes also being too high. Intakes of fruit, vegetables and oily fish were also not meeting recommendations (BNF, 2009). Consequently, it would appear that recent nutritional surveillance data pertaining to the eating habits of children on the island of Ireland merit the attention of those involved in health education.

2.3 Nutrition Education and Healthy Eating in Schools

2.3.1 Context

Healthy eating practices and a positive attitude to food and nutrition should be established in young children during their formative years of development as it can influence practices and preferences in later life. Furthermore, it has been established that healthy dietary habits have been linked with education levels. For instance, those with higher levels of education are likely to eat greater amounts of fruit, vegetables and fibre and less fat than consumers with less education (Higgins et al., 2008). *The World Cancer Research Fund (WCRF) Second Expert Report* emphasises the importance of establishing healthy nutritional behaviour in early life in order to prevent cancer and chronic diseases. It advocates a life-course approach in the promotion of healthy eating (WCRF, 2007). Research has indicated that an empowerment approach to nutrition education can assist in changing students' behaviours (Reynolds, 2006). Empowerment is a central tenet to health promotion and has been a core principle since the Ottawa Charter published by the WHO in 1996.

According to Tones and Green (2004) an empowerment model of health promotion should underpin all domains of health and be evident in policy and practice. Empowerment can be defined as “people acquiring a degree of power and control” and self-empowerment facilitates an individual to have “power and control over their interactions with their physical and social environment” (Tones & Green, 2004, p.30). A healthy attitude and behaviour towards food can be empowering to individuals where, without such knowledge and skills, the element of choice and control are diminished and a dependency culture emerges. Similarly, the British Nutrition Foundation identify that a positive attitude and change in eating behaviour can be encouraged in children if they are “exposed” to healthy food choices in school (BNF, 2004).

2.3.2 Nutrition Education and the Curriculum

In educating children about food and nutrition, consistent and age appropriate delivery of healthy eating messages is essential, and obviously the formal SPHE/PDMU curriculum plays a key role in this. The empowerment of children with knowledge, understanding and skills is important so that children will be enabled to make appropriate food choices and develop a positive attitude to food and diet related issues (Butriss, 2002).

The potential of the formal school curriculum for food education has been highlighted in a number of recent reports. In the RoI, the *Government National Health Promotion Strategy* (2000-2005) outlined as a key objective the promotion of healthy eating behaviours in young people. Subsequently, the Department of Health and Children, in a submission to the EU Commission's Green Paper on *Promoting Healthy Diets and Physical Activity*, called for the implementation of classes which focus on healthy eating, cooking skills and nutrition for all school-going children (CEC, 2005). Health departments have consistently identified schools as “one of the best mediums for improving the health and nutrition of children ... in order to reduce the risk of later chronic diseases” (McKenna, 2000, p. 202).

Elsewhere, research has provided much evidence to suggest that the school is an ideal setting for nutrition health promotion (Woofle & Stockley, 2005; McCullough et al, 2004). Bucher Della Torre et al. (2010) state that in the United States obesity prevention programmes have mostly concentrated on schools as they reach large numbers of children from diverse backgrounds and have long-term and in-depth contact with them. Thus the primary school setting offers an ideal environment where children are educated in healthy eating. This can then lead to the ability to make informed and positive food choices and exercise control over their diet (Rodrigues et al, 2001; Burke, 2002; Caraher, 2007).

According to Perez-Rodrigo & Aranceta (2001), nutrition education is “a key element to promoting lifelong healthy eating and should start from the early stages of life” (p.131). The provision of nutrition education facilitates children to establish positive dietary behaviour and attitudes to food (McCullough et al., 2004). Furthermore, as a result of the evident divergence between the consumed and recommended diet, the significance of nutrition education in the school setting “cannot be over emphasised” (Douglas, 1998; p.17). In a study carried out by Ofsted in the UK in 2004, effective nutrition education practice in schools was characterised by informed teachers who were free from bias and based their knowledge on current nutritional advice. Additionally, effective learning took place when children had the opportunity to apply what they learned in the classroom and messages were consistent across the whole school environment (Lakin & Littledyke, 2008).

2.3.3 Nutrition Education Intervention in the School Setting

Alongside the statutory curriculum, schools are recognised as ideal settings for the implementation of nutrition education interventions. Through the transmission of nutrition and health related issues at an early age, primary school children are ideally placed for nutrition education interventions which promote healthy eating habits (Carter & Swinburn, 2004). Contento (2007) provides a comprehensive overview of the theory and practice of designing such interventions. She defines a nutrition education intervention as:

...any set of systematically planned educational activities or learning experiences that is provided to a group in a variety of settings, along with relevant environmental supports where appropriate.

(Contento, 2007, p. 172)

Schools are an effective and attractive setting for nutrition education interventions because they have the potential to target, simultaneously and efficiently, large numbers of children and parents in a relatively low cost manner over a long period of time (WHO, 1999; Johnson et al., 2003; BNF, 2004; Lowe et al., 2004). However, according to McKenna (2000) the impetus for implementing nutrition education policies in schools is driven largely from health agencies and not educational agencies. The development of coherent policies by both educational and health agencies which are comprehensive and coordinated are imperative. Adamson et al. (2006) make the case that policy is important for the formalisation of health education in the school setting.

Most school-based interventions focus on dietary change (Woolfe & Stockley, 2005), use a variety of approaches, and often involve others such as teachers, parents and the community along with the pupils. Furthermore, interventions which incorporate an activity are the most effective method in promoting positive healthy eating messages. Nutrition education which involves a “hands on” approach, including cooking and tasting sessions, has been shown to increase the consumption of fruit and vegetables by 0.5 – 1 portion per day (BNF, 2004). The importance of a “hands on” approach was also highlighted by McCullough et al. (2004) where children had a preference for fun and exciting practical nutrition lessons.

Interventions may be focused broadly on the promotion of healthy eating; or more specifically on issues such as the reduction of obesity or the reduction of cardiovascular risk (Warren et al., 2003). In some instances, the intervention may take place within curriculum time; in other cases it may sit outside the curriculum (Gribble et al., 2003; Van Cauwenberghe et al., 2010); and in other situations, a combination of both may be utilised. Notably, research suggests that it is the integration of healthy eating interventions into the curriculum which is deemed to be most effective in promoting a healthy attitude towards food and influencing a positive change in behaviour (BNF, 2004). Until relatively recently, the literature concerning school-based interventions has mainly been focused on US based initiatives (Warren et al., 2003; Woolfe & Stockley, 2005). In the UK, five major school-based interventions were commissioned by the Food Standards Agency between 1998 and 2002 (Woolfe & Stockley, 2005) with varying degrees of success. A key point which emerged from a review of these interventions was the importance of ensuring that interventions are sustainable in the long term (Woolfe & Stockley, 2005).

2.3.3.1 School Based Nutrition Interventions on the Island of Ireland

In the Irish context, a number of nutrition interventions have been developed for and implemented into the school setting, in both NI and the RoI. In a few cases, these initiatives have been piloted on a small scale initially, thereafter being followed with a regional or national roll-out.

In the RoI, given that the provision of school lunches by the school is not the norm, several studies which address the nutritional quality of packed lunches have been undertaken. O'Brien et al. (2002) reported on a curriculum-based nutrition intervention which incorporated resources from a number of sources in order to promote and encourage the consumption of more healthful school lunches and snacks by pupils. In this study, the issue of limited discrete time being available for SPHE is raised by the authors – hence, the intervention was designed to be integrated into various curriculum subjects (including SPHE) over a period of four weeks. Food intake data was collected using food diaries pre- and post-intervention. Following the intervention, increases in energy, protein and calcium were recorded, and an important outcome noted was awareness-raising among the children, where “it became apparent that the children were beginning to link the nutritional information they had learnt with the contents of their own lunch boxes” (O'Brien et al., 2002, p. 325).

In line with nutrition/healthy eating interventions elsewhere (Van Cauwenberghe et al., 2010), increasing the consumption of fruit and vegetables is a frequent focus of school-based interventions in Ireland. Specifically targeted at increasing fruit and vegetable consumption, the *Food Dudes* intervention is a peer-modelling and rewards intervention which was developed by the Food and Research Unit at the University of Bangor, and has been successful in the UK context where school meals are provided (Lowe et al. 2004; Horne et al. 2008; Lowe & Horne, 2009).

The *Food Dudes* intervention is designed for use in primary schools and encourages children aged 4 – 11 to taste fruit and vegetables repeatedly. The programme aims to increase children's consumption of fruit and vegetables and maintain this change of eating behaviour over time by incorporating three key principles, namely, peer-modelling, repeated tasting and rewards (Lowe et al., 2004; Lowe & Horne, 2009). In the RoI, with support from the EU and the food industry, *Food Dudes* was piloted on a trial basis in 2005 and differed substantially from previous trials in the UK in that the focus was on changing school lunchboxes. Within the intervention, the peer-modelling aspect features heroic *Food Dudes* characters who frequently consume fruit and vegetables as they engage in a series of video-adventures, and who exalt the benefits of consuming this produce. The effectiveness of the intervention in the Irish context was evaluated by Horne et al. (2008). Findings from that study indicated that the *Food Dudes* intervention “produced significant and lasting increases in fruit and vegetable consumption” (p. 5).

Studies on the effectiveness of the intervention in other countries indicate that *Food Dudes* brings about a substantial increase in children's consumption of fruit and vegetables (Lowe et al, 2004; Horne et al, 2004; Lowe & Horne, 2009). The intervention has consistently increased consumption of fruit and vegetables and encouraged children to experience and taste a wide range of fruit and vegetables (Butriss, 2002). An important feature of the *Food Dudes* intervention is that parental support as well as teacher involvement is a requisite for successful implementation. Teachers are trained by members of the research team and are thereafter responsible for the implementation of the sixteen-day intervention. This encompasses the teacher showing a *Food Dudes* video episode or reading out a letter from the *Food Dudes* to the children immediately prior to lunch each day. The teacher then distributes the fruit/vegetable to the children, and following consumption of the fruit/vegetable, the teacher distributes the daily reward to the children.

According to Lowe et al., (2004), ‘stand alone’ nutrition education intervention programmes, implemented by schools, are highly effective in increasing consumption of fruit and vegetables and maintaining the increases in consumption. The *Food Dudes* programme was awarded a World Health Organisation Counteracting Obesity Award in 2006, in recognition of the success of the intervention in increasing children's consumption of fruit and vegetables and maintaining a change in children's behaviour. The *Report of The National Obesity Task Force, Ireland* (DOHC, 2005), recommended the implementation of the *Food Dudes* programme in primary schools. Following a successful pilot programme during 2005 in 150 primary schools, the Government is currently making the programme available to all primary schools in Ireland on a phased basis.

The *Incredible Edibles* challenge, while not a nutrition intervention in the strict sense, may be categorised as a resource pack which aims to promote the growing and consumption of fruit and vegetables among Irish schoolchildren. It was established by Agri Aware (a charitable trust) in 2008 and partnered by a number of commercial enterprises as well as Bord Bia, Teagasc and the Department of Agriculture, Fisheries & Food. In 2008/2009 the Sowing and Growing Challenge saw a growing kit and supporting resources sent to every primary school in the RoI (Agri Aware, 2009). Notably, the documentation does not stipulate a particular curriculum area for which the resource is targeted, but reference is made to healthy eating throughout the resource materials. In an evaluation of the initiative following the first year of implementation, Agri Aware (2009) report that more than 95% of teachers indicated that there had been an increase in fruit and vegetable consumption among the children following participation in the challenge.

2.3.4 School food provision and healthy eating

A key difference between food provision and consumption in schools in Ireland and the UK (including NI) is that school meal provision is not the norm in the RoI, while it is in the UK. It should however be noted that Kelly et al. (2010) highlight that in the RoI, funding is available to avail of food provision through the school meals programme but only to schools with disadvantaged schools status. Van Cauwenberghe et al. (2010) suggest that the provision of a school meal is a common practice throughout Europe, and one which enhances the effectiveness of the school as a setting for interventions. In NI, nutritional standards and healthy eating in schools have received considerable attention since the publication of *Investing for Health* (DHSSPS, 2002). The introduction of nutritional standards for school meals in NI (DENI, 2008), as well as the monitoring role afforded to the Education and Training Inspectorate since 2007/08, is indicative of a growing commitment to healthy eating in the school setting, inside and outside the classroom.

2.4 Conclusion

In conclusion, studies demonstrate that children who receive age appropriate and consistent nutrition education demonstrate an overall improved diet quality (Dixon & Banwell, 2004). The school environment is highlighted as a key area for nutrition education, and as a result it is a prerequisite that messages are delivered in a consistent, coherent and clear manner (CEC, 2005; Young et al, 2005). Indeed, schools can provide opportunities for both students and staff to establish and maintain healthy eating patterns (Higgins et al, 2008). Ensuring good health requires a life cycle approach, and this involves the integration of nutrition education in the school setting within a whole school approach to healthy eating; thus ensuring that messages conveyed in the classroom are reinforced in practice and translated into healthy food choices within the school setting and beyond.

Chapter Three: Methodology

3.0 Introduction

This research focused on primary school teachers' experiences of teaching food and nutrition in the classroom as a component of both the Personal Development and Mutual Understanding (PDMU) curriculum in Northern Ireland (NI) and Social, Personal and Health Education (SPHE) curriculum in the Republic of Ireland (RoI). This chapter documents the methodological aspects of the research study. It commences by presenting the general aim and specific objectives of the study. Thereafter, an outline of the research instruments, data collection procedures and the methods of analyses are presented.

The rationale for conducting this study was to establish the actual classroom-based experiences and real needs of teachers in their delivery of nutrition-related components in the PDMU and SPHE primary school setting. Due to the fact that PDMU and SPHE are now compulsory on the primary school curricula, nutrition education is currently being taught in both jurisdictions in a more formalised manner than previously. Therefore, it was deemed useful to ascertain the commonalities and differences regarding positive and negative experiences of teachers in the teaching of this material. It should, however, be noted that this research is not a comparative study. Sharing of ideas and experiences is a useful exercise, and it is envisaged that the data collected from this process will assist in the future development of collaborative in-career professional development for primary school teachers throughout Ireland.

3.1 Research Aim

To investigate the perceptions, knowledge, attitudes and experiences of primary school teachers in their teaching of healthy eating and food related issues. In order to achieve this aim the following objectives were devised.

3.2 Research Objectives

- Complete a review of nutrition education within the primary level curricula in NI and the RoI in order to ascertain progression of key concepts from school entry to completion of primary education stage;
- Establish how teachers translate the syllabus into practice in their classrooms and document teachers' experiences of teaching healthy eating and nutrition within their respective SPHE/PDMU syllabi;
- Identify barriers to effective teaching of the syllabus material and quantify issues of concern which are common to teachers within both jurisdictions;

- Examine experiences in relation to the implementation of school-based nutrition education interventions and establish their relevance to the PDMU/SPHE curricula;
- Determine the supports required by teachers for enhanced teaching and learning of food and nutrition at all stages of the primary school curriculum;
- Contextualise findings with a view to identifying how actions required may be supported at both the initial teacher education stage, as well as during continuous professional development of teachers.

3.3 Mixed Method Approach

'Mixed methods' is the term used to describe research that combines both quantitative and qualitative data collection (Punch, 2009). Initially this study was purely a quantitative one. However, upon compilation of the quantitative data it was decided that additional qualitative data collection was necessary to explore in more depth some of the issues highlighted by teachers in the quantitative study. Consequently, the study then became a two phase mixed method explanatory design. Punch (2009) describes this as a type of mixed method whereby the quantitative data collection is completed first and then follow-on qualitative data is needed to gain a fuller understanding of the quantitative results.

3.4 Quantitative Data Collection

3.4.1 Research Instrument

Following an initial review of literature, the study commenced with a series of 'think tank' meetings amongst the research team. The aim was to isolate the pertinent issues involved in undertaking a study that not alone covered two different education systems but essentially two different curricula. As the intended study set out to seek opinion from approximately 200 primary school teachers located in NI and the RoI, a quantitative approach was deemed more appropriate than qualitative. Burton et al. (2008) suggest "questionnaires are more suitable for larger populations, which are being asked to respond in short and simplified ways" (Burton et al, 2008, p. 80).

When seeking facts and descriptive information, a questionnaire is seen as an effective data collection tool. Subsequently, a questionnaire was designed by the research team and comprised of four sections. Part One gleaned information pertaining to the personal profile of the primary school teachers. Part Two examined school policy and practice with specific reference to healthy eating. Part Three focused on obtaining information regarding the teaching and learning of the food and nutrition related components of PDMU and SPHE. Finally, Part Four investigated the resources and supports available for teaching the food and nutrition-related components of the PDMU and SPHE. There were 33 questions in the questionnaire, consisting of dichotomous questions, rate scale questions and open-ended questions. The open-ended questions were useful for the collection of qualitative data.

The questionnaire was piloted in 2008/2009 in both NI and RoI in a bid to determine its suitability as a research tool. Following piloting, some minor amendments were made to the questionnaire in order to make the questions applicable to the education systems of both jurisdictions.

3.4.2 Ethical Consideration

Prior to commencement of the field research, and before contacting schools or distributing questionnaires, ethical approval was sought through the University of Ulster Ethics Filter Committee. In this study the term ethical refers to the values and standards of behaviour that a person adheres to in relation to others. This approval process included the completion of an RG1a form *Application to Undertake Research on Human Subjects* and an RG1c form *Risk Assessment Record* (<http://research.ulster.ac.uk/research/rg/governance.html>). Issues of confidentiality were stressed to participants and a guarantee given that anonymity would be respected. In addition, throughout the report quotations and references from the questionnaires to individuals or schools are presented in an anonymous manner.

3.4.3 Sample Selection

This is a non-probability study. Initially, it was decided to administer the questionnaires to primary school teachers at in-career development cluster group meetings. However, due to poor attendance at these meetings it was necessary to consider an alternative method of distribution. Subsequently, it was decided to distribute the questionnaires via initial teacher education students of Home Economics in both St. Angela's College and University of Ulster during their respective teaching practice school placements. This ensured a wide geographical spread. The questionnaires were administered during the months of January- June 2009. In both jurisdictions, some difficulties were encountered regarding the return of these questionnaires, which resulted in the research team having to target schools and administer the questionnaires utilising a face-to-face approach. This type of sampling is known as 'snowballing'. It involves the researchers contacting a small number of participants who have the relevant specific requirements in which they are interested. These participants then become informants and put the researchers in touch with other suitable participants hence the term 'snowballing' (Cohen & Mahon, 2007; Opie, 2004). Consequently, the results presented do not represent the entire primary school teacher population.

3.4.4 Analysis

Considering the numbers involved, it was decided to use a software programme Statistical Package for Social Sciences (SPSS V17) and an electronic data capture system (FORMIC) to assist the process of analysing the completed questionnaires. This allowed for frequency analysis on all variables for the whole sample, by jurisdiction and for years of teaching experience and gender of the respondents. Open-ended questions were analysed using a qualitative approach, namely thematic analysis.

3.5 Qualitative Data Collection

Following analysis of the quantitative study, it was apparent that additional data was required to clarify and refine some of the questionnaire findings. It was decided that this secondary data collection would be of a qualitative nature. The aim of the qualitative study was to give a closer focus on the strengths and weaknesses of the teaching of healthy eating-related material and of the environmental circumstances in which these lessons are conducted. Initially, it was foreseen that this qualitative data collection would take the form of unstructured classroom-based observational studies in both NI and the RoI. An observation study involves recording behaviours as a stream of actions and events as they naturally develop (Punch 2009). Consequently, it was anticipated that the researchers would observe primary school teachers in both jurisdictions teaching an actual nutrition/food related lesson.

However, there were a number of logistical reasons which militated against this type of study being undertaken which in themselves revealed some interesting findings. For example, many schools teach this type of information at the beginning of the school year in the hope that healthy lunches and snacks will be eaten by the students from the outset of the school year. Furthermore, as the last term of the academic year is usually particularly busy with school tours, sports days etc. it was anticipated that the availability and willingness of teachers to participate in this type of research might be limited. Consequently, face-to-face interviews with teachers in their own classroom in the school setting were deemed to be the most suitable option.

Interviews are one of the most powerful ways of accessing peoples' perceptions, understandings, descriptions of situations and constructions of actuality (Punch, 2009). Based on the fact that specific quantitative data required further clarification, there were pre-determined factors which needed to be explored within the interview schedule – hence semi-structured interviews were conducted.

3.5.1 Research Instrument

An interview schedule was drawn up by the research team which consisted of pre-set questions accompanied by optional discussion prompts associated with each question. This interview schedule was piloted with two primary school teachers working in each jurisdiction in March 2011. Based on these two pilot interviews, some of the wording of questions was altered to suit the differences in terminology used in the different curricula. As suggested by Roulston et al. (2003), during a qualitative interview it is often the case that the interviewer anticipates a particular narrative or description from the participant. Given that in the course of the interviews it was our intention to revisit some of the issues which the questionnaires had touched upon, we were acutely aware of the need to take measures to ensure we would not lead the interview in a particular direction. Thus, whilst a number of interview questions were drawn up as part of the schedule, we were open to generating questions “during the interview in response to informants' response” (Hatch 2002; p. 23). Furthermore, in order to obtain as close an insight into classroom practices as possible, the inclusion of a question which

invited participants to share their experiences of particular resources which they utilised during lessons on healthy eating was deemed an important component of the schedule. The interview schedule consisted of three areas: school policy, teaching and learning and resources and support.

3.5.2 Sample Selection

Purposive sampling was utilised. This is where the researcher hand picks the sample in a deliberate way based on their suitability to fulfil the research criteria (Punch, 2009). Ten interviews with primary school teachers were conducted in total, five in NI and five in the ROI, during the months of March, April and May 2011. The teachers were specifically targeted to ensure that a diverse range of schools was included in different geographical locations. The teachers were assured of anonymity and all interviews were recorded for transcription at a later stage.

3.5.3 Analysis

All of the interview transcripts were read separately by two members of the research team. Each transcript was read once initially in a bid to identify emerging themes. A meeting of the ROI-based researchers discussed the emerging themes and ratified a final set of complete themes, sub-themes and associated classifications. All of the transcripts were then re-read and the data was categorised under the agreed list of specified themes.

3.6 Limitations of the Study

As in any research there are certain factors which may be seen as having a limiting effect on the study. These include:

- The geographical distance between the participating institutions which made ease and regularity of meeting more difficult;
- The samples in both the quantitative and qualitative data were selected using a non-random approach and therefore are not representative of the entire population of primary school teachers;
- The study could only give an overview at a particular point in time and would require further more in-depth analysis of teaching methods and the value the school places on health and well-being to be able to draw more definitive conclusions.

3.7 Conclusion

In conclusion, a two phase mixed method explanatory design was employed for the field research. While there are limitations to the study, such as non-representativeness of the sample, this does not deter from the fact that the results and findings yielded clear opportunities for future collaborative professional development across both jurisdictions. These will be presented in the next chapter.

Chapter Four: Presentation of Results

4.0 Introduction

This chapter will present the results of the quantitative data collection and the findings from the qualitative face-to-face teacher interviews.

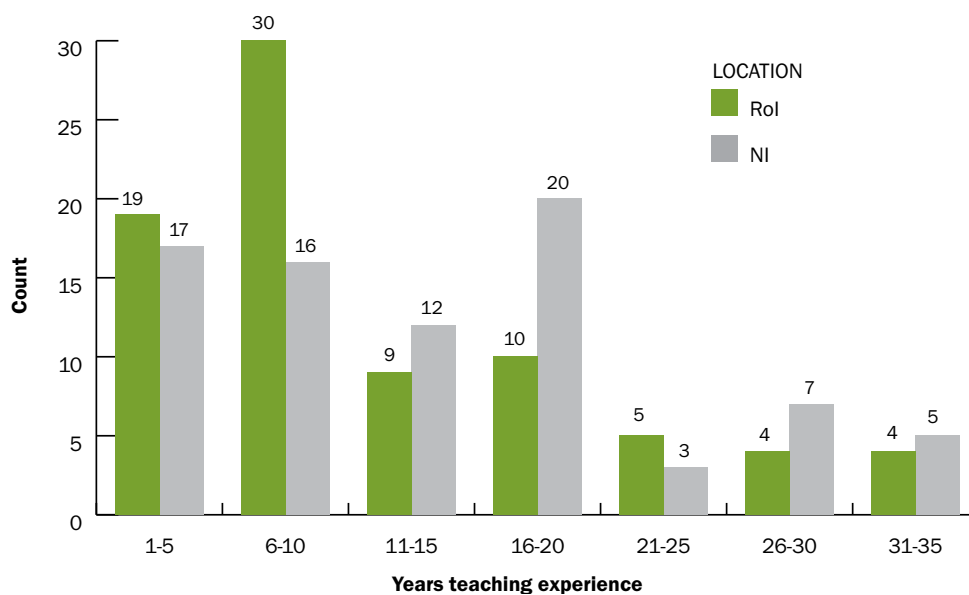
4.1 Quantitative Analysis

The results of the questionnaires are presented below under four headings: Personal Profile, School Policy and Practice, Teaching and Learning, and Resources and Support.

4.1.1 Personal Profile

A total of 162 primary school teachers participated in the survey, with 22 (14%) males and 138 (86%) females¹. A total of 81 (50.3%) teachers were teaching in the RoI and 80 (49.7%) were in NI². In the RoI 37% (n=30) had a range of 6-10 years teaching experience. However, in NI 25% of teachers (n=20) had a range of 16-20 years. Nearly half (49%, n=79) of teachers in NI and the RoI have between 11 and 35 years teaching experience. A more detailed breakdown of years of teaching experience is presented in Figure 4.1.

Figure 4.1: Years Teaching Experience * Location



1 Two respondents failed to indicate their sex.

2 One respondent failed to answer this question

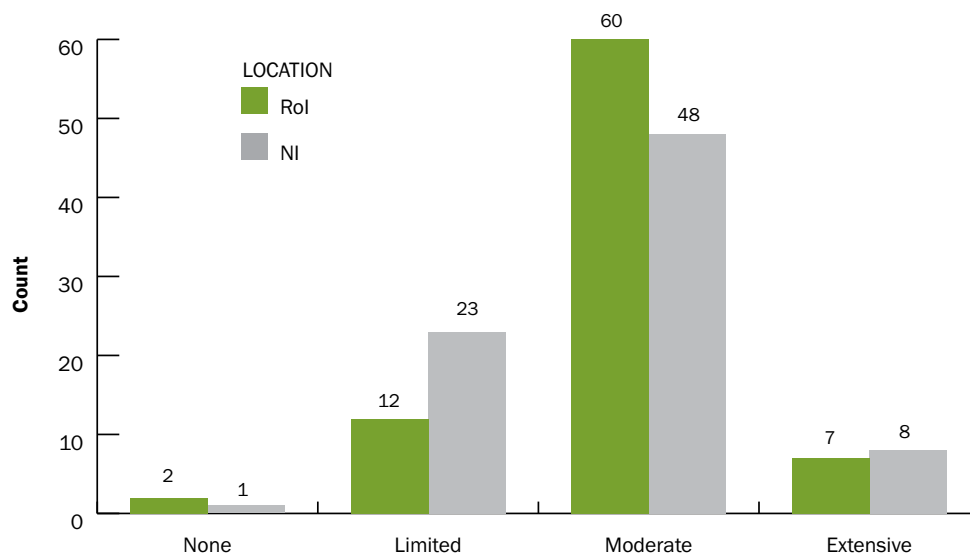
When asked to rate their personal knowledge of nutrition and food issues, teachers responded as follows:

Table 4.1: Teachers personal knowledge of nutrition and food issues

	Excellent	Very Good	Good	Fair	Poor
Nutrition	13.6% (n=22)	58.6% (n=95)	26.5% (n=43)	1.2% (n=2)	0
Food Issues³	13.8% (n=22)	57.5% (n=92)	26.9% (n=43)	1.9% (n=3)	0
Healthy Eating	21.2% (n=34)	58.8% (n=94)	20.0% (n=32)	0	0

Teachers were then asked to rate their experience of teaching food issues, healthy eating and nutrition issues. As is evident in Figure 4.2, teachers in both jurisdictions rated their experience as moderate (RoI: 37.3%, n=60; NI: 29.8%, n=48). Moreover, 17.3% (n=14) of RoI teachers and 30.1% (n=24) of NI teachers rated their experience as none or limited. In contrast, only 8.6% (n=7) of RoI and 10% (n=8) of NI teachers responded that their experience was extensive.

Figure 4.2: Experience of teaching food issues



3 Two respondents failed to answer this question

4.1.2 School Policy and Practice

Reassuringly, the majority (92.5%, n=148) of schools had a whole school approach to food, health and nutrition issues. Only 7.5% (n=12) of schools did not have a healthy eating policy. This was more apparent in NI than RoI where 10% (n=8) of NI teachers reported that they did not have a school healthy eating policy, in comparison to 5% (n=4) of teachers in the RoI.

Table 4.2: Breakdown of presence of healthy eating policy in schools by jurisdictions

School has a healthy eating policy	Location		
	RoI	NI	Total
Yes	47.5% (n=76)	45% (n=72)	n=148
No	2.5% (n=4)	5% (n=8)	n=12
Total	n=80	n=80	n=160

Teachers were asked to identify their involvement and input into the development of the healthy eating policy. As is evident from Figure 4.4, the majority of teachers (64%, n=97) reported that all staff had involvement and input into the development of the policy. In the RoI 74% (n=58) of teachers reported that all staff had involvement, while 23% (n=18) reported that some staff were involved in the development of the policy. However, in NI 53% (n=39) and 44% (n=33) of teachers reported that either all staff or some staff had involvement in the development of the policy.

Figure 4.3: Presence of healthy eating policy in school

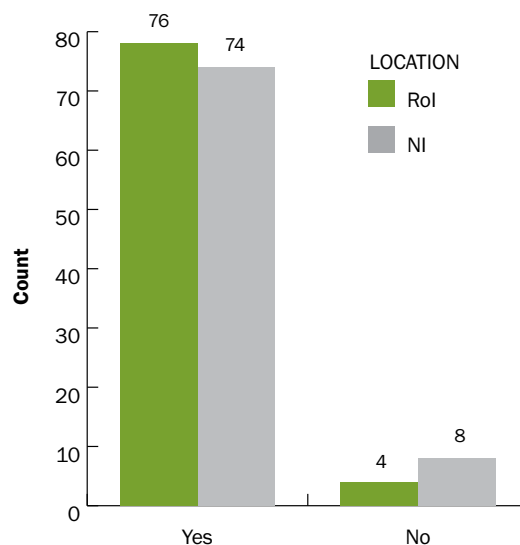
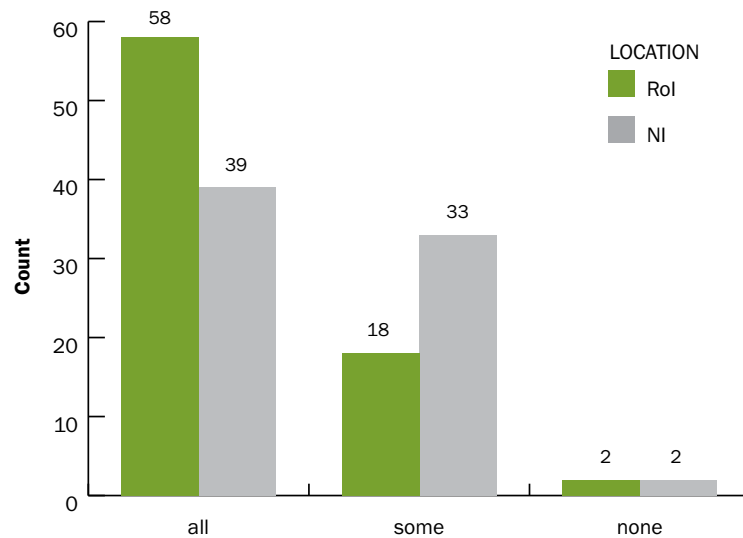
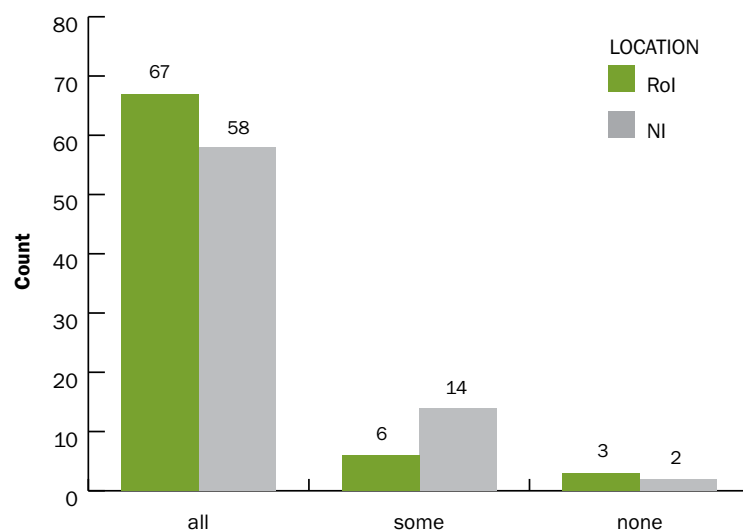


Figure 4.4: Availability of funding to support the delivery of healthy eating policy



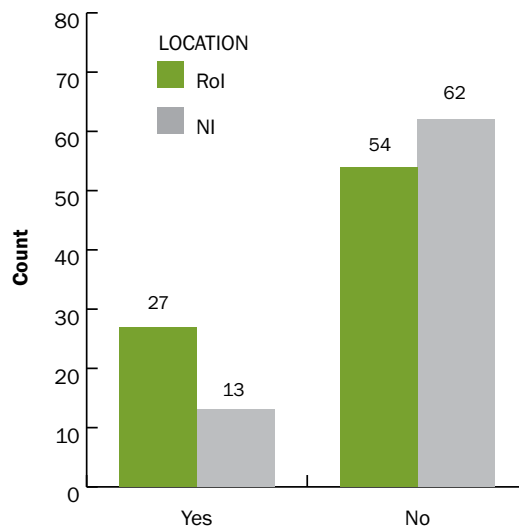
With regard to the implementation of the healthy eating policy in the school, the majority of teachers (83%, n=125) reported that all staff had responsibility for implementing the healthy eating policy, as is evident from Figure 4.5. In both jurisdictions a clear majority reported that responsibility for implementing the policy was held by all staff.

Figure 4.5: Extent of staff responsibility for implementation of healthy eating policy



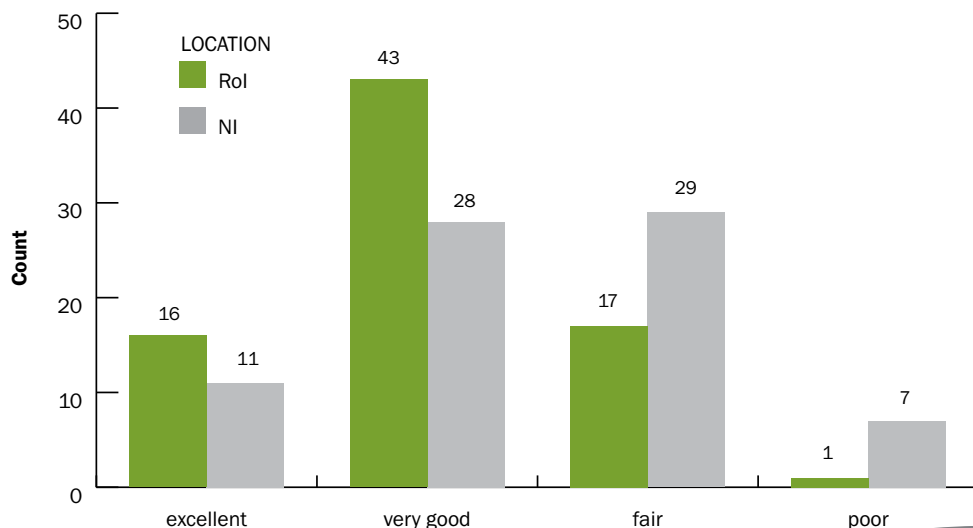
Despite the prevalence of a healthy eating policy in schools (93% of all schools, n=148), very few schools (n=40) had received funding to support the delivery of the policy. According to the teachers, the majority (98%, n=156) of parents are supportive of the school promoting healthy eating. A more detailed breakdown of the results for schools with funding is presented in the figure below:

Figure 4.6: Availability of funding to support the delivery of healthy eating policy



Teachers were asked to rate the extent to which the healthy eating policy had impacted on pupils' eating behaviour and health attitudes. As is evident from Figure 4.7, the majority of teachers (46.7%, n=71) reported a 'very good' impact on pupils' eating behaviour and health attitudes. However, a difference in the majority rating occurred when the results were analysed by location. In the NI the majority of teachers (38.7%, n=29) reported the impact as 'fair'; in contrast the majority of teachers in RoI (55.8%, n=43) reported the impact as 'very good'.

Figure 4.7: Extent to which policies impacted on pupils



4.1.3 Teaching and Learning

Teachers in both jurisdictions were asked to identify the concepts which they teach in relation to food commodities and to identify the area within the curriculum to which the concept or theme related. Teachers in the RoI identified key themes such as the food pyramid, food groups and nutritional information. Teacher RoI T35 identified teaching “which group of the food pyramid certain foods are in” as a key theme. This was further reiterated by Teacher RoI T44 who stated that she teaches “where food comes from, visit to farms, the story of the potato. There is a school garden to grow vegetables, they harvest, prepare and eat them”. Teacher RoI T36 said a key concept was “discovering what they (the students) like / dislike” and allowing the students to “taste foods they have not had a chance to taste normally”.

In addition to the above themes, it was apparent that the NI teachers placed more emphasis on the teaching of where food comes from. Examples of key themes given by teachers include: “where food comes from” (Teacher NI T108 and T109); “farm to plate as opposed to processed” (NI T129); “analysis of food in a diary” (NI T85). Furthermore, Teacher NI T89 identified teaching “how certain food types are grown/ produced” as a concept and Teacher NI T108 highlights the teaching of “how food impacts on lifestyle and other areas, teeth, bones etc. and the importance of balance and the impact of under- and over-consumption” as key themes. The RoI teachers identified these key themes as being located in the curriculum areas of Science and SPHE. The NI teachers identified Science and Geography as the two key subject areas where these key themes were located.

Teachers in both jurisdictions identified common themes such as good eating habits, the food pyramid and the importance of proper eating and exercise as key concepts when teaching healthy eating. Examples cited by teachers include “balanced diet, promotion of healthy eating and encouraging healthy breaks/fruit/vegetables” (NI T157); “discussion of what keeps us well, energy and what do we enjoy” (NI T111); “the importance of a balanced nutritious diet and making informed appropriate choices” (NI T80). Additionally, teachers stated that they teach students the importance of “five pieces of fruit and vegetables a day, drink[ing] milk and water” (NI T117) and a “balanced diet / healthy snacks and making good choices” (NI T127). Similarly, teachers in the RoI stated that they teach “effects of different foods on our bodies and consequences of eating healthily / unhealthily” (RoI T36). Teacher RoI T65 identified the “importance of exercise, meals, foods that are nutritious and the risks of becoming overweight, protection against disease”. Teacher RoI T7 stated they teach “foods that have a high energy / low energy content”. Teachers in the RoI and NI identified Science and SPHE (RoI) / PDMU (NI) as the curriculum areas with which they associated the teaching of key concepts relating to healthy eating.

The teachers in the RoI identified food groups/food pyramid and the importance of healthy eating as two key themes when teaching students about nutrition. Teacher RoI T2 outlined they teach “why we need food for energy/exercising, why we need vegetables, fruit and why sweets need to be a treat”. This was further reiterated by Teacher RoI T35 who outlined that they teach the “importance of vitamins and minerals and what foods to get them from”. Teacher RoI T66 taught the importance of “food for growth, health and energy and balance; regularity and moderation needed”. Teacher RoI

T68 stated that she would conduct an “infant class discussion on how to keep body healthy, and designing and creating a healthy snack... play out eating meals and providing good nutrition”.

In contrast, NI teachers identified understanding nutritional information as the key theme explored when teaching nutrition. Teachers stated that they focus on the teaching of “vitamins and minerals, carbohydrates, proteins, fats and why they are needed regularly” (NI T85); “healthy food sorting activities, role play, making a healthy meal, identifying fruit and vegetables varieties” (NI T119) and the “variety of foods needed to sustain our body and keep it functioning healthily” (NI T113). Teachers in both jurisdictions identified Science and SPHE (RoI) / PDMU (NI) as the curriculum areas with which they associated the teaching of key concepts relating to nutrition.

A number of key themes emerged from teachers in both jurisdictions in relation to including or omitting concepts or topics. Responses to this question centred on the need for greater emphasis on the relationship between healthy eating and exercise – as is apparent from Teacher RoI T41, who outlined that there is a need for emphasis “more on exercise and not so much focus on just food”. This is further reported by Teacher RoI T42 and NI T125 who identify the need for an emphasis on exercise.

Some teachers in both the RoI and NI outlined that food, healthy eating and nutrition are adequately covered and that there is a difficulty in fitting any extra topics into an already crowded curriculum. Teacher RoI T65 stated “I feel that there is enough included and there is nothing that should be omitted. Getting around to teaching every concept already included is very difficult”. This was further reiterated by Teacher NI T116 who stated it is “difficult to fit in any extra into an already overfull day”. Teacher RoI T12 did not believe that any extra concepts should be included and stated “I feel it is adequately covered”.

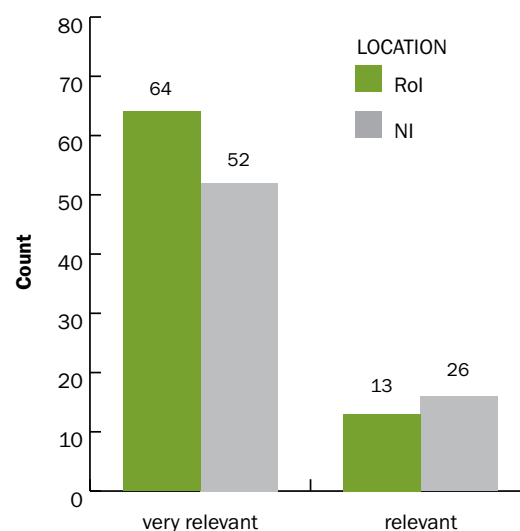
Teachers expressed the need for in-service training and more information on healthy eating, nutrition and food commodities. Teacher RoI T7 stated “in-service on these topics is important” and Teacher RoI T8 reiterated this view, stating “I feel there is a need for in-service in this area”. According to Teacher RoI T36, “a more in-depth look at foods that children tend to have in lunch boxes e.g. cereal bars or lunchables” would be welcome. “Looking at ingredients of food, E numbers and fast food” was suggested by Teacher RoI T45 and “any information on healthy eating nutrition and food commodities should be included in the curriculum – the more information we have the better” (RoI T73).

Teachers believed that the value of buying local and growing their own food also needs to be included as key themes in the curriculum. Suggestions by teachers included the inclusion of “buying local produce and how to grow your own produce” (RoI T17); “producing food naturally, without preservatives and additives” (RoI T43); “the value of growing their own food” (RoI T44) and “traditional food production techniques” (NI T129). Additionally, teachers in both jurisdictions outlined the need to address portion size and the risk of obesity with students. Teacher RoI T26 stated “we need to give some time to talking about portion size” and Teacher RoI T32 identified that the “the risk of obesity is omitted from the curriculum. Practical sessions were also advocated by a number of teachers including the “tasting and experimentation with food” (RoI T14); “cooking activities, preparing snacks, fruit salads, smoothies” (RoI T43). The inclusion of visits by guest

speakers “from outside agencies – e.g. Dairy Council, dentists etc.” was suggested by Teacher (NI T117). According to Teacher (RoI T75), “promotional initiatives are only of use if parents can be made to see the value of healthy eating. Working with children in isolation regardless of such initiatives is, in my opinion, of little benefit”.

With regard to teaching about food, healthy eating and nutrition, 25.9% of teachers in NI (n=21) and 22.5% (n=18) of RoI teachers indicated that they devote one hour per week to the teaching of this topic. All teachers in the RoI and NI rated the relevance of the work on food, healthy eating and nutrition to the lives of their pupils as either very relevant or relevant. The majority (75%, n=118) rated it as very relevant.

Figure 4.8: Degree to which work on food is considered relevant



The majority (76.4%, n=120) of schools participated in a health promotion initiative or nutrition intervention programme. The most common nutrition intervention was *Food Dudes* in the RoI and *Bright Bites* in NI. Other key initiatives outlined by both RoI and NI teachers were *Healthy Break*, *Boost Better Breaks*, *Munch and Crunch* and *Incredible Edibles*. Most (70%, n=106) of the teachers used active learning methodologies in the teaching of food, healthy eating and nutrition. Teachers identified advantages to being involved in *Food Dudes* as it “got children to eat healthily” (RoI T42) and Teacher RoI T46 stated that the “general opinion is that it was very successful”. However, concern was expressed by Teacher RoI T26 who stated “we participated in *Food Dudes* last year. I would question the investment in it as it took a lot of effort and obviously cost a lot but it had minimal impact in the long term”.

Teachers in both the RoI and the NI commented positively that being involved in these activities raises teachers’ own awareness of healthy eating. They said it reinforced key concepts on healthy eating and facilitated the teacher to act as role model. Teacher RoI T24 reinforced this sentiment and

identified that such concepts lead to “more awareness of the importance of healthy eating and setting a good example to children”. Additionally, Teacher NI T148 stated “I am more aware of the need to encourage healthy eating and I try to promote it in the class”. Teachers spoke very positively about being involved in health promotion initiatives and nutrition intervention programmes and outlined that such programmes “reinforce ideas on healthy eating” (RoI T7) and “highlight the importance of healthy eating and gave huge insight into which students do not eat fruit and vegetables” (RoI T27). Furthermore, Teacher NI T106 stated that such programmes “make food related lessons more relevant” and provide “practical experience and engagement in learning” (NI T83). Additionally, teachers stated that being involved allows students to “put what you teach into practice” (RoI T12); they “encourage children to eat well, helpful resource for lessons” (NI T105), and “it makes you focus on nutrition and healthy eating which can otherwise get pushed aside in a very busy curriculum” (NI T117). Teacher RoI T43 identified that it is “very important skills and knowledge are taught in a fun way with positive incentives” and “it is an interesting subject/topic to teach, children love tasting different foods and learning about them, I enjoy teaching these topics” (RoI T44).

Additionally, the teachers in both jurisdictions identified that health promotion initiatives had a positive impact on healthy eating among children which in turn had an impact on teaching. There was a general consensus that they promoted positive behaviour in class, as children found it easier to concentrate and were more focused. Teacher NI T112 commented they “promote better behaviour in class making lessons easier to teach”. This is further reiterated by Teacher NI T162, who stated “pupils are more informed about healthy lifestyle choices; pupils are settled and concentrate in class”. Additionally, such initiatives “help focus children on the physical eating of fruit, not just book learning” (RoI T30); “puts it into practice what the children have learned in class” (RoI T37), and “reminds us on a daily basis to promote and emphasise importance of healthy diet and exercise” (NI T122). Teacher NI T104 states that involvement in these initiatives “helps to develop the children using a holistic approach”, while Teacher RoI T73 believes it “helps to reinforce the healthy eating policy and cover areas of SPHE subject”. Teachers also identified the enjoyment that children experience when involved in practical hands-on sessions which in turn makes teaching rewarding: “children have hands-on experience of growing fruit/vegetables which makes them learn more and retain more, and also they are more inclined to sample what they have grown themselves” (RoI T39). “The children really enjoyed it – it was worthwhile” (RoI T74) and “children enjoy the hands on work which makes the teaching rewarding” (NI T128).

Teachers did express some concern over the time required to be involved in health promotion initiatives which may have a negative impact on teaching: it “takes up extra time” (RoI T5); “was time-consuming” (RoI T74) and “takes time to find resources” (NI T153). However, despite their concern over time they did accept the value that students experienced: “time-consuming at the start, but worked well once up and running” (RoI T10) and, according to Teacher RoI T77, it “can be time-consuming to run but long-term it’s very worthwhile”. Teacher NI T96 identified that there is “more work for teaching, but it has benefits in the work and interest of children”.

All teachers surveyed highlighted the positive impact on the whole school as a result of being involved in the health promotion initiatives: “promoted more awareness of healthy eating throughout school” (RoI T24); “creates whole school awareness and opportunities for role modelling” (RoI T60). They identified a more positive attitude towards healthy eating in the school and the introduction of a variety of foods that children might not otherwise experience: “children get involved in activities that are educational and fun” (RoI T7); “leads to awareness about food choices, informs children of variety of foods who may otherwise not get to experience them” (RoI T50) and it “promotes and motivates children to talk about and get the opportunity to taste healthy food” (RoI T70). There is an increased awareness of healthy eating and nutrition among students who are involved in the health promotion initiatives: “a better overall awareness of importance of good diet and exercise” (RoI T55); “children become more aware of the importance/benefits of healthy eating” (NI T89); “settled happy children who can make informed healthy choices” (NI T162), and an “awareness of food, growing of food, appreciation of food relation to personal health and local environment” (RoI T69).

Furthermore, teachers said involvement in the initiatives promoted a positive change in the food choices of students at break time and, interestingly, less litter in the school. According to Teacher RoI T43, such initiatives “promote positive attitude, increase pupils awareness, allow pupils to make healthy eating decisions”. This is reiterated by Teacher NI T82 who notes that “there has been a notable decrease in fatty/unhealthy food at break-time”. Teacher NI T107 outlined that “children never bring foods that are unhealthy apart from when allowed, and they look forward to fruit day”, while Teacher NI T112 states that such initiatives “promote positive behaviour in the playground and generally less litter”. Teacher RoI T77 observed that the “intake of healthy food throughout the school appears to have increased”.

Additionally, teachers in both jurisdictions observed that a whole school approach is more effective when participating in healthy eating initiatives. They stated that a much greater impact on the whole school is achieved if a united approach involving staff and parents talking about healthy eating is adopted: “it is more encouraging for the children when the whole school are taking part” (RoI T22); “raises whole school awareness on need for healthy lifestyles and importance that eating habits has on this” (NI T159); “promotes involvement of whole school/community” (RoI T60). According to Teacher RoI T73, it “encourages a healthy eating policy throughout the whole school and gets staff, parents, and children talking about healthy eating”. This is reiterated by Teacher NI T121: “it is a whole school approach so everyone is involved”. Teacher NI T127 stated that “a whole school approach is much more effective” as, according to Teacher NI T134, it “brings school together”. Teacher RoI T21 stressed that a “team working together, a good atmosphere” and a “united approach to healthy eating which is carried home” (RoI T13) are required, which will “bring cohesion to the whole area of healthy lifestyle” (NI T141). Among all the teachers surveyed, there were only two negative comments on the impact of participating in health promotion activities on the whole school: “time consuming” (RoI T6) and “not sure of the overall impact” (RoI T30).

From responses by the RoI teachers it was evident that the most frequent way that active learning methodologies were incorporated into the teaching of food, healthy eating and nutrition was through

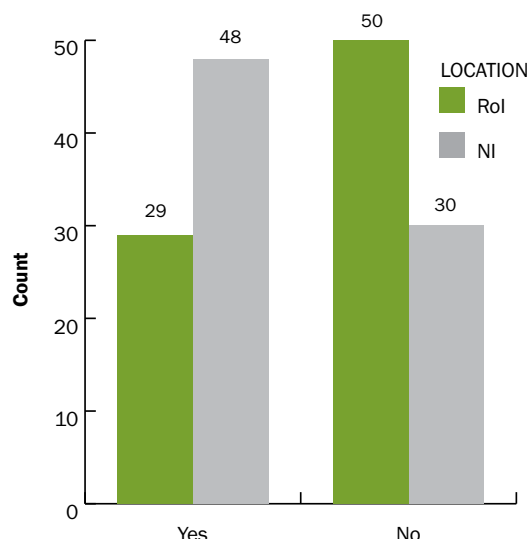
the use of food tasting. Teacher Rol T58 identified using “taste foods with bitter/sweet/sour flavour” and Teacher Rol T4 uses “fruit and vegetable samples”. Teacher Rol T26 incorporates “tasting, coding, preparing food”; Teacher Rol T35 uses “food tasting, interactive games” and Teacher Rol T60 incorporates “tasting and smelling activities, food surveys, food diary”.

However the most frequent method reported by the NI teachers was through the use of group discussions, songs, outdoor and indoor play activities. Additionally, menus and role play of restaurant was used: “action songs, wake and shake activities, fundamental movement, and outdoor and indoor play activities” (NI T119); “poster work and group work” (NI T128); “discussing lunches as we eat them” (NI T104); “real food-hands on, putting into categories (food type, healthy, beneficial)” (NI T110), and “bringing in foods, tasting games, designing posters, presenting ideas” (NI T124). A much greater proportion of NI teachers reported undertaking food preparation or cooking as an active learning methodology: “1 day a month we make/cook something healthy, i.e., smoothie” (NI T108); “preparation of fresh fruit salads, pancakes etc. during Lent” (NI T123); “preparing and cooking food” (NI T141); “demonstrations and participation in small groups (practical sessions)” (NI T150) and “making fruit salad, pancakes” (NI T146). In contrast, only a few Rol teachers reported this active learning methodology. However the main activities outlined by these teachers included “bringing in fruit, making fruit smoothie, some teachers showing the children how to make healthy lunches” (Rol T28); “smoothie making, small amount of practical cookery in older classes” (Rol T36), and “fruit kebabs/juicing in class 5th and 6th class brought blackberry picking in September and then make juices in school” (Rol T52).

There was evidence that a greater number of Rol teachers reported growing vegetables in the school garden which assisted them in the teaching of food, healthy eating and nutrition: “school garden, children plant carrots and potatoes in a plot, harvest them, prepare and cook them” (Rol T44); “growing of vegetables in school polytunnel” (Rol T69); “grow healthy food in classroom, tomatoes, strawberries, thyme (*Incredible Edibles*)” (Rol T15), and “gardening where children smell, touch and feel the products” (Rol T43). In contrast, only one NI teacher reported having a school garden: “planting vegetables in our school organic garden” (NI T121).

Approximately half (49.7%, n=78) the teachers had the opportunity to execute food practical sessions with students in the classroom setting. Examples of these included a “school gardening project, growing vegetables and herbs” (Rol T2); “cookery competitions” (Rol T7 and T8); “green schools project and school initiatives promoted in class” (Rol T43); “healthy eating week – local country shop sponsors fresh fruit for all children during the week” (Rol P52), and “after school cookery club – only make healthy snacks / meals” (NI T127). Some other interesting initiatives outlined included “a funding initiative where fresh fruit was given to all classes four times a week” (Rol T28); “in school healthy breaks initiative – competitions designing cartoon fruit and vegetables characters, weighing compost bins” (NI T82), and “fruit day on Thursday, treat day on Friday where children are allowed to only bring in one treat item in their lunchbox” (NI T107). However the execution of practical food sessions was more prevalent in NI where 62% (n=48) of teachers had the opportunity to carry out practical classes as opposed to only 38% (n=29) of Rol teachers.

Figure 4.9: Opportunity to conduct practical food lessons



The qualitative quotes in the questionnaire clearly demonstrate the contrast between the type of products being prepared in practical food sessions in classrooms in the RoI and NI. Products being prepared in RoI included: “making rice Krispie buns” (RoI T2); “only rice Krispie buns/all-bran nests” (RoI T27, T59); “smoothie making” (RoI T36, T39). Pancakes were mentioned by a number of teachers as a product they prepare in class: “I make pancakes every pancake Tuesday for all staff and pupils and my class watch” (RoI T8). Teachers also said that they prepare “healthy sandwiches, potato salad – simple enough to do in the classroom” (RoI T10). Teacher RoI T66 said they prepare “rice Krispie buns, toffee apples, pancakes”; Teacher RoI T71 prepares “rice Krispie buns, queen cakes, spaghetti bolognese” and Teacher RoI T64 makes “soup using organic fresh vegetables” with their students. It was also apparent from responses that students are afforded the opportunity to cook the produce that they grow. Teacher RoI T65 stated that children were involved in “baking and cooking potatoes which were grown last year”. According to Teacher RoI T65 “children supply the food, experiment with new/unusual food, prepare it, present it, decorate table and have a formal meal”. Teacher RoI T54 stated that children are involved in “school based cookery demonstration and making soup with the vegetables they grew themselves”.

Teachers in NI stated that they prepare products such as “soda bread” (NI T90); “making healthy pizza and fruit smoothie” (NI T113) and “showing how to make porridge and pancakes” (NI T111). Teacher NI T118 reported making “Christmas cake and harvest soup”; Teacher NI T133 prepares “fruit salad, scones, porridge, pancakes on Shrove Tuesday”. Teacher NI T125 prepares “basic dishes - fruit salad, vegetables, salads, sandwiches, and smoothie” and Teacher NI T119 makes “pancakes, buns and biscuits, healthy sandwiches and tasting exotic fruits/fruit salad”. Teacher NI T141 follows “recipes to make simple food like scrambled eggs, omelettes, French toast, carrot and tomato soup, baked potatoes”. As in RoI, pancakes were a very popular choice with NI teachers to produce in class and according to Teacher NI T136 they prepare products which relate to “a topic of work or annual events e.g. Pancake Tuesday”.

Teachers in the NI seemed enthused about practical food sessions; Teacher NI T80 stated that “as part of hobbies session pupils pay £1 per week and make a variety of dishes/meals”; Teacher NI T137 said “we bake quite a lot! Scones, cakes, smoothies, pancakes, sandwiches”; “one day a month we make/cook something healthy i.e. smoothie” (NI T108) and children engage in “season related cooking for Halloween, Christmas, Pancake Day and Easter” (NI T162).

However, it is very evident that there is a clear lack of facilities and equipment in the NI and the RoI for teachers to use when carrying out practical food sessions. Teachers in both jurisdictions stated that “facilities not available” (RoI T7, T9, T27, T31) and (NI T109, T153). Although some teachers do have access to facilities these “are very basic” (RoI T68) and are “difficult to use in large group (30+) setting” (RoI T43); “facilities are available but would be very difficult to undertake with 21 infants” (RoI T77). Facilities and resources reported available by teachers in the RoI included: “microwave and toaster in school” (RoI T56); “we are lucky enough to have an oven” (RoI T76); “not in the classroom, but we can use the kitchen” (RoI T49); “I have just bought an oven for the classroom and intend to start cooking with them” (RoI T52), and there “is a small kitchen area with one cooker that we have the opportunity to use” (RoI T70). Teachers in NI reported access to the “school kitchen where the children can have the opportunity to be actively involved in lessons” (NI T121) and “no facilities in classroom although staffroom is used for cooking” (NI T156). Interestingly, one teacher reported that “Sainsbury’s provided us with kitchen utensils/equipment as we collected their vouchers for schools” (NI T99).

Lack of accessibility to a full kitchen limits the products that teachers can prepare with students and as result they often use the “staffroom oven and microwaves to bake for special novelty occasions” (RoI T37); or the “cooker in the hall’s kitchen and make fruit salad and smoothie” (RoI T42); “occasionally do practical sessions in the staff room with the children in older classes” (RoI T25); “we have use of cooker/microwave in the staffroom” (RoI T35). As a result, there is a “demonstration of foods not needed to be cooked e.g. smoothie, healthy wraps” (RoI T41); “as there is no cooker in the school, practical sessions are limited” (RoI T15); “not baking or oven cooking, as there is no oven in the school” (RoI T28). Teachers in the NI stated that their activity is “limited as we have no cookers in classrooms” (NI T117) and it is “not really practical due to limitations of resources” (NI T158). Moreover, teacher RoI T65 stated that “there are not enough opportunities for this type of learning in primary school as only 30 minutes per week is allocated to SPHE, which includes all aspects of social, personal and health education”. Some teachers in NI reported that they had organised after school cookery clubs (NI T122, T148): “we have a cookery hobbies group on Friday afternoon” (NI T81); “we have an after-school cookery club for P5s, nothing that requires cooking” (NI T115).

Teachers in both jurisdictions reported that one of the key advantages of carrying out practical work is the valuable hands-on experience it provides. Furthermore, through practical work children are introduced to a variety of different foods. This is evident from comments of teachers in the RoI. According to Teacher RoI T12, practical work “helps children to make healthy eating part of their everyday life” and as Teacher RoI T26 explains “children get life skills - they often ‘discover’ foods that they like and bring the message home”. Additionally, Teacher RoI T56 states that “children are given hands-on experiences of food and their importance in a healthy balanced diet”.

This is reiterated by Teacher RoI T66, who states that “children have fun while at the same time learning and, hopefully, developing an improved attitude to a healthy lifestyle”. Teachers in NI outlined numerous advantages of practical work including: “children enjoy the hands-on experience, many teachable points throughout activity” (NI T113); “some of the children learn about fruit and vegetables that they may not have experienced at home” (NI T119); “active learning makes more impact and the message gets through” (NI T142); it “provides children with experience needed for future, great to link in with literacy (writing out methods); perhaps many don’t get this at home” (NI T150); “children learn basic cooking skills and they enjoy the practical activity” (NI T81). According to Teacher NI T91, “pupils are very engaged” and Teacher NI T115 states that “children learn best from hands-on work”. According to Teacher NI T110, “children love to get stuck in and remember the lesson longer if they can take part” as the lessons ‘come alive!’ (NI T134).

Teachers in both NI and RoI identified the sense of enjoyment and fun that children achieve when undertaking practical food sessions. There is “enjoyment for children, they get to taste food they may not have tried before” (RoI T35); it is “fun, active and children participate, observe and feel a connection to the end product” (RoI T68); “it is great fun for the pupil” (RoI T2); it “involves children, lifelong learning and motivates children through enjoyment” (RoI T70). Teachers in NI also stated that it is “fun and children remember the key concepts as this is a practical session” (NI T80); it “excites the children’s interest in food and cookery” (NI T118); “children are more interested and they love practical work” (NI T127); “children remember what they enjoyed. They learn valuable lifeskills during practical work” (NI T141).

However amid the advantages outlined by the teachers, they also expressed a number of disadvantages and, in particular, factors which inhibit them from undertaking practical work in the classroom. These included the lack of resources and facilities, the time required to undertake practical work, the large class sizes and the health and safety issues associated with practical classes. In particular, teachers in the RoI stated that “resources are basic so the opportunities are limited” (RoI T2); “facilities a problem for 31 children and a small kitchen that can accommodate about 6 safely at a time” (RoI T16); “it is difficult to get children involved when there is not enough equipment, it really is only a cookery demonstration” (RoI T25); facilities are “quite unsatisfactory as cooking sessions take place in a small staffroom with a ratio of 30:1” (RoI T14); there is “no funding, it’s up to the teacher” (RoI T50); “equipment is limited, large class numbers, insurance” (RoI T43); “takes a lot of time, uses up time when should be teaching other subjects” (RoI T28).

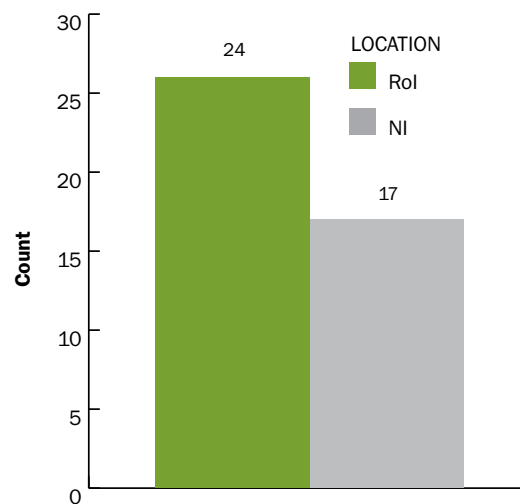
These sentiments are reiterated by teachers in NI who outline issues such as a “small room, limited equipment, health and safety issues are multiplied” (NI T94); “had to do without proper food preparation area” (NI T109); “lack of resources to allow adequate pupil participation” (NI T114); “cost of ingredients, support needed, time consuming” (NI T120); “facilities required are not available” (NI T129); “equipment is limited - you bring your own. Money - you buy your own ingredients”. With regard to classroom management, it was noted that “classes can be rowdy and excited” (NI T151); “equipment restricts what can be done and cost is also a disadvantage” (NI T153).

4.1.4 Resources and Support

Details of the training given to teachers to support their teaching of food, healthy eating and nutrition is outlined in Figures 4.10, 4.11, 4.12 and 4.13.

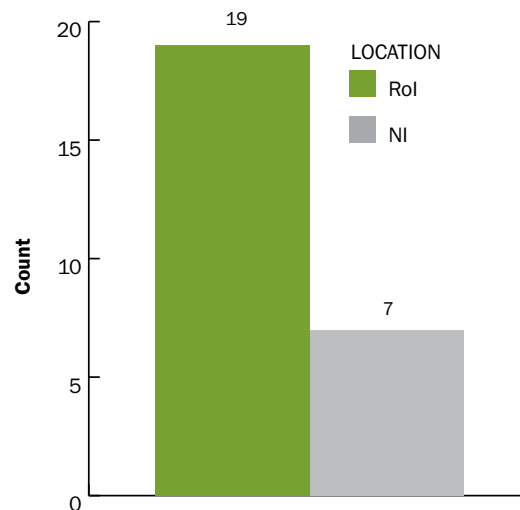
Over 32% (n=26) of teachers in the RoI rely on in-service training for their support in teaching food, healthy eating and nutrition in comparison to only 21% (n=17) of NI teachers.

Figure 4.10: Types of Training – In service



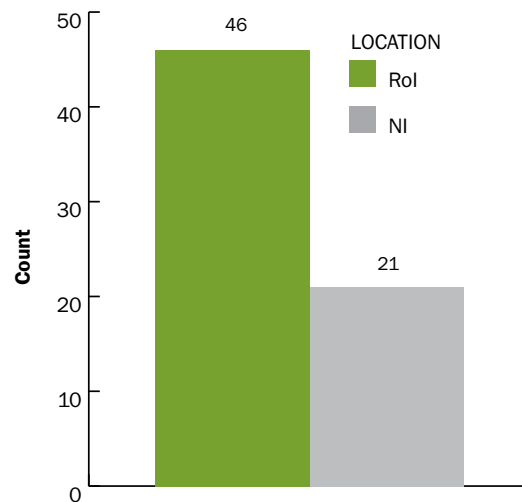
Moreover, of those teachers availing of specific nutrition courses 73% (n=19) were from RoI in contrast with 27% (n=7) from NI.

Figure 4.11: Types of Training – Nutrition Courses



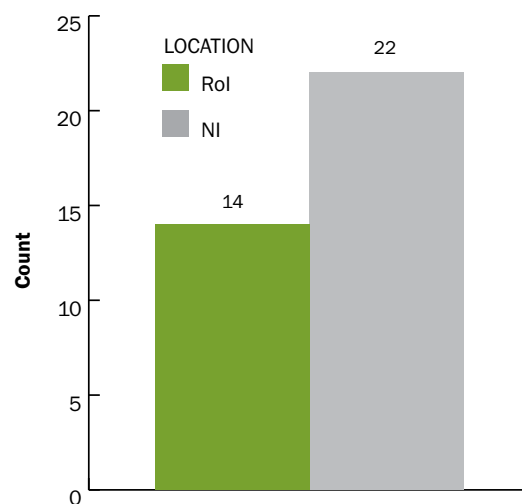
Initial teacher education was identified by 46 RoI teachers as providing support material for the teaching of food, healthy eating and nutrition. Again, this is in contrast to only 21 NI teachers.

Figure 4.12: Types of Training –Teacher Training



A greater number of teachers in NI (n=22) identified web based training as a support mechanism for their teaching, in comparison to 14 teachers in RoI.

Figure 4.13: Types of Training – Web Based



The majority (76%, n=118) of teachers did not have a specific textbook or teaching pack for the teaching of food, healthy eating and nutrition issues. They identified a number of additional resources which would support the teaching of this topic. These included posters, games, DVDs and simple recipes to use in the classroom: "booklet/book containing recipes that can be made within the confines of the school" (RoI T10); "a specific textbook or teaching pack for teaching of food, healthy eating, nutrition issues" (RoI T28); "food based games, jigsaws, matching games, songs based on food, nutrition etc." (RoI T73); "Food Pyramid game where children place correct food portions on each section thus making children aware of daily requirements" (RoI T58); "any resources would be a help, ideas for lessons would be great, I tend to do the same few things each year" (RoI T26). Teachers stressed the importance of such resources being age-appropriate: "age appropriate DVDs" (RoI T3); "specific age appropriate textbook with activities for children" (RoI T24). Teachers in NI identified a specific need for text books: "a whole school text book" (NI T96); "a specific textbook would be good" (NI T101); "games and practical activities and also music and songs work well through play based learning" (NI T119).

Teachers in both jurisdictions clearly identified the need for extra finances to support the implementation of practical food sessions. Teachers in the RoI emphasised a need for both physical resources and finance: "if there was a kitchen in every school it would aid the teaching - but in reality most schools don't have a fully equipped kitchen" (RoI T25); "more facilities for practical-based tasks so that the children will be able to put theory into practice" (RoI T15); "facilities for practical food preparation" (RoI T20); "money and funds to promote health and nutrition" (RoI T65). More facilities and equipment were called for and the introduction of a class assistant to help out with the practical sessions: "an assistant to help with practical work" (RoI T14). Teachers in NI also outlined a need for resources and basic facilities: "basic food equipment for classroom such as chopping boards, safe cutlery, plates etc. and a central cooker would be beneficial" (NI T90); "a petty cash allowance for buying ingredients for practical sessions. Often I buy at my own expense" (NI T142); "an area allocated within the school" (NI T151); "I supply my pupils with the utensils and equipment for cooking. I also supply the ingredients; it would be good if the school could supply these" (NI T141).

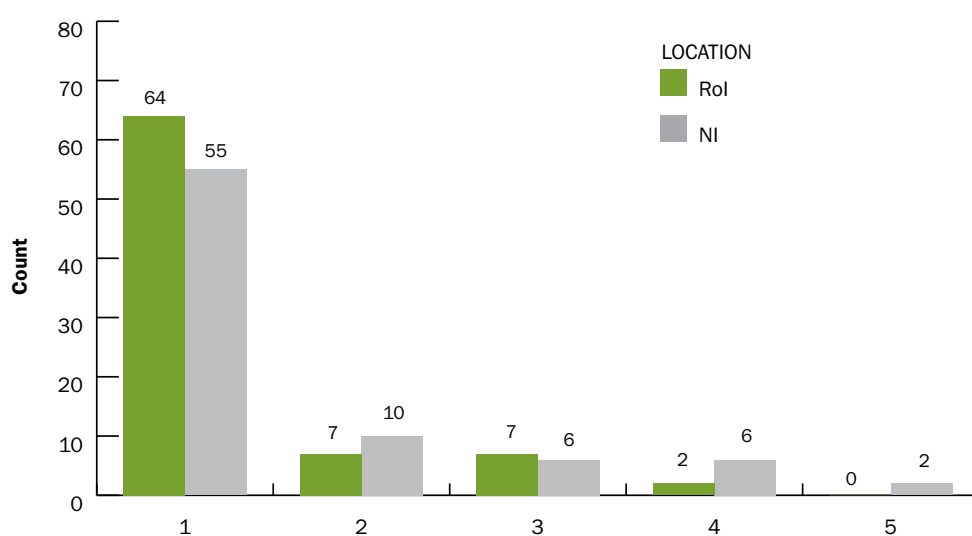
It is also very evident from responses by the teachers that time is an issue. More time is identified by teachers in addition to in-service training and teacher packs: "time is really the biggest issue. There are so many other things to do" (RoI T16); "practical activities for school which can be done with a large group when there are little resources (i.e. cookery) in schools" (RoI T32); "little recipe cards that don't involve much preparation or involvement of heat" (NI T107); "ideas for lessons and worksheets, food/healthy eating photo pack" (NI T109); "teacher information/training" (NI T125) and "a set of lesson plans" (RoI T34, T53, T61). Some teachers also said that the provision of more initiatives like *Food Dudes* and the *Walk Tall Programme* would be beneficial: "provision of more initiatives like the 'Food Dudes' to raise children's interest" (NI T121); "more programmes like *Food Dudes* to implement healthy eating" (RoI T42); "new initiatives - would be interested in *Food Dudes* etc." (RoI T68).

When asked to rank the factors most important for the successful teaching of food, healthy eating and nutrition, a whole school approach was ranked as number one by teachers in both jurisdictions, as is apparent in Figure 4.14

Table 4.3: Importance of factors in the successful teaching of healthy eating

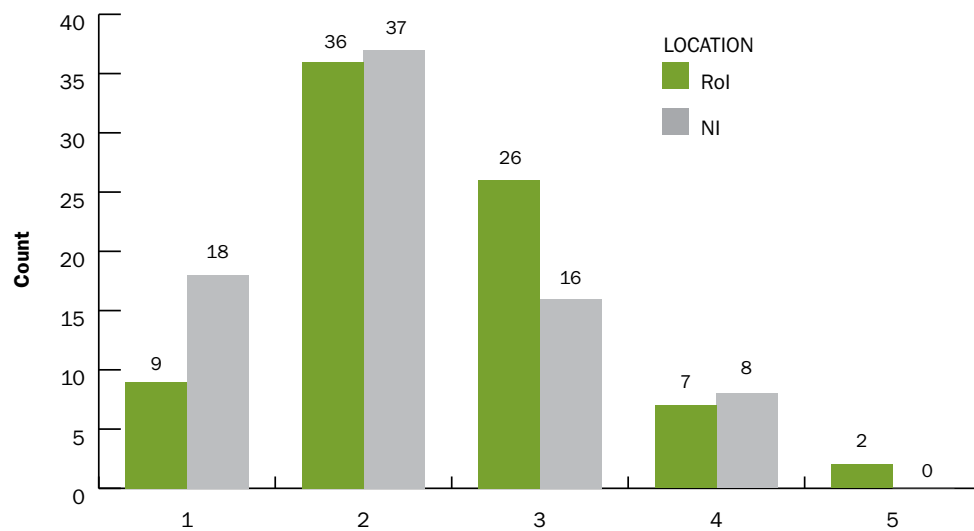
Areas	Overall Level of Importance (1 being most important and 5 being least important)									
	1 (count)		2 (count)		3 (count)		4 (count)		5 (count)	
	S	NI	S	NI	S	NI	S	NI	S	NI
Whole School Approach	64	55	7	10	7	6	2	6	0	2
Resources for Teachers	9	18	36	37	26	16	7	8	2	0
Textbooks for Children	0	2	5	6	6	7	17	10	52	53
More opportunities for professional development	5	7	7	11	18	25	37	28	13	7
Provision of facilities for practical food preparation	3	9	25	17	25	25	16	19	11	9

Figure 4.14: The importance of a whole school approach



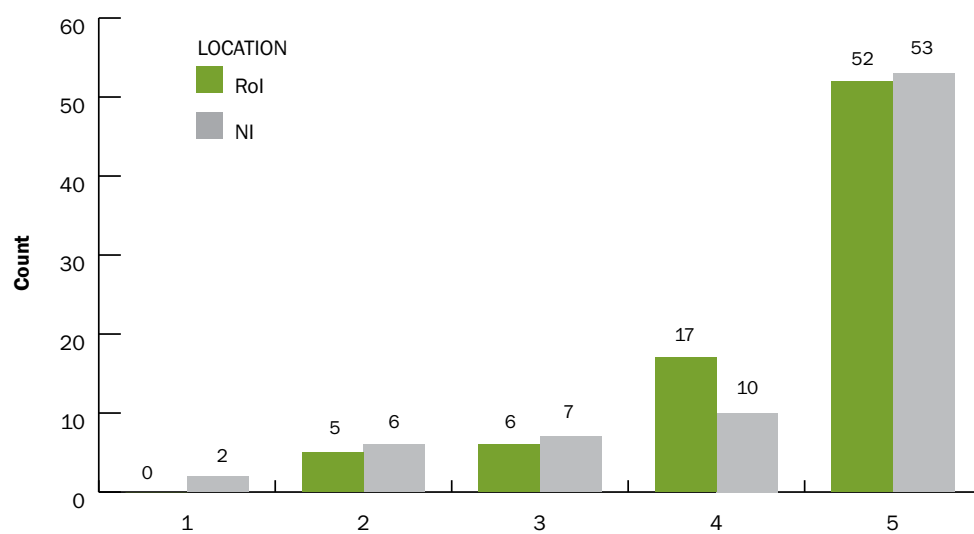
Furthermore, teachers in both the RoI and NI ranked the provision of resources as the second most important provision for successful teaching out of five factors.

Figure 4.15 Resources for Teachers



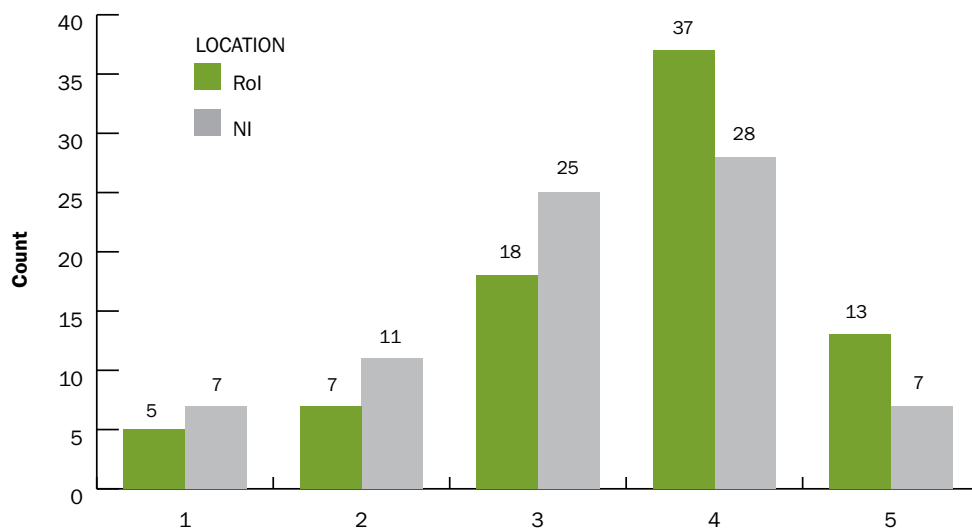
With regard to the provision of textbooks for children, the majority of teachers in both jurisdictions rated it as being least important.

Figure 4.16: Textbooks for children



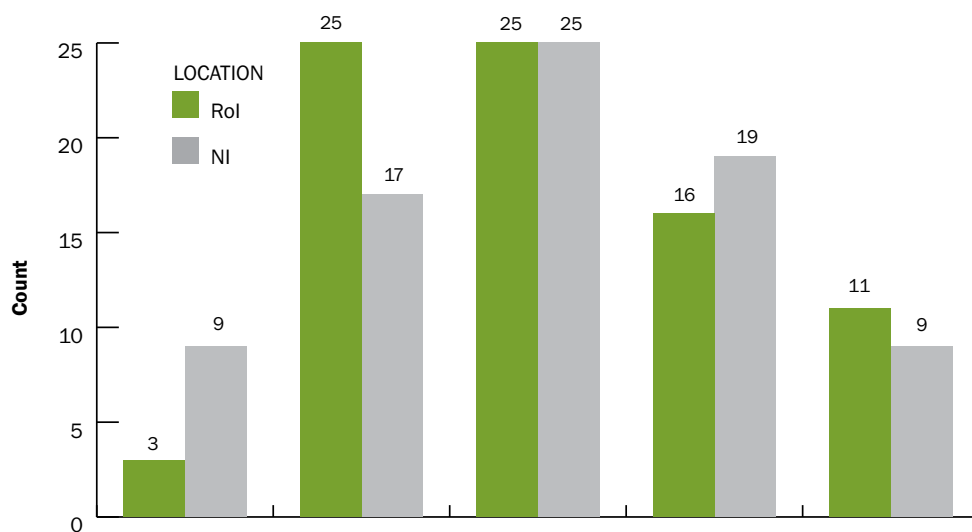
Teachers in both the RoI and NI rated more opportunities for professional development as number four out of the five factors..

Figure 4.17: More opportunities for professional development



With regard to the provision of facilities for practical food preparation, teachers in RoI rated it equally as number 2/number 3 in terms of importance. However, teachers in NI rated it as number 4 out of 5.

Figure 4.18: Provision of facilities for practical food preparation



4.2 Qualitative Analysis

The findings of the ten teacher interviews are presented below under the following headings; School Healthy Eating Policy, Teaching and Learning, and Resources and Support.

4.2.1 School Healthy Eating Policy

As stated previously, questionnaire results indicated that within both jurisdictions most schools had a healthy eating policy, and the face-to-face interviews sought to elicit more in-depth information on how these were operationalised within schools. Hence, the qualitative findings pertaining to the School Healthy Eating Policy focus on the following themes:

- Overview of healthy eating policy approaches
- Ownership and operationalisation: the translation of the healthy eating policy into practice
- Healthy eating policy as a component of a whole school approach to health and well-being.

- **Healthy eating policy approaches**

Across both jurisdictions, a variety of policy approaches was reported by teachers. This ranged from having a formal policy document which was very visible to staff and students, to having a less formal approach where the codes of the healthy eating policy were communicated to staff, but not always in a document which was visible and accessible (See Appendix A for an example of a policy). This is evident in the following teacher comments:

Healthy eating it started for us quite a number of years ago, maybe ten- twelve years ago, and through the years, yes, we have written up healthy eating policies, and we have a current one (Interview NI 3).

We do have a healthy eating policy...I've never read the actual [document]... there is a policy there – it's in the office and you can go and get it if you want to, but generally you're told when you start here what's acceptable and what's not (Interview RoI 1).

Some schools were at an earlier stage in the development of a policy, while others were reviewing and updating theirs. One teacher describes in her account how the staff felt that it would be more worthwhile to ascertain the effectiveness of various measures which were in place before formalising these within a policy document:

We need to get this written up and then we thought, hold on, that actually is a massive job...it would be better to get our programmes really embedded and then sit back and say...ok how do we best describe this? (Interview NI 1)

Another teacher explained the process by which the policy was reviewed:

We had a survey completed over one week, where the teacher had to tick whatever the children were bringing for break, for packed lunch... I think to refresh and go over and update the one [healthy eating policy] that has been in place in the past (Interview NI 5).

- **Ownership and Operationalisation: the translation of the healthy eating policy into practice**

Regardless of how formalised the healthy eating policy was in a particular school, there was a consensus among teachers that how the policy was operationalised on a day-to-day basis was very much dependent on the individual teacher, as one teacher of junior pupils explained:

Whenever they start school, I make up an induction pack and I have listed out what foods are appropriate, what foods are not appropriate. I'm very strict about what they have in their lunchboxes and they will not be allowed it if it's high sugar, or high salt, or something that's extremely inappropriate, and then I just explain basically they're not allowed that (Interview RoI 1).

The teacher's role in reinforcing healthy eating messages and praising pupils for adhering to the policy was highlighted by one NI teacher:

Lunchboxes are looked at during lunchtime and if it's deemed to be a healthy lunchbox with a sandwich, fruit and whatever, stickers are given....and teachers also give out healthy eating awards during assembly every Friday, and that's particularly done in the Key Stage 1 classes (Interview NI 2)

However, in one case, a more *laissez-faire* approach to the policy by certain teachers in the school was highlighted as a concern:

But then because there's inconsistencies among teachers then that can cause upset among parents, and you can understand it because some teachers do allow it and I have seen them allow crisps, sweets or whatever else (Interview RoI 1).

In schools where packed lunches were brought in by pupils, all the teachers identified the key role played by parents in preparing food for their children which would conform to the policy guidelines set down by the school:

We recommend that the children would mostly bring in healthy stuff to lunch, and on Fridays then we have a treat day when they can bring in one treat -, but during the week, it would be fruit, vegetables....parents are aware of it, the healthy eating policy has been sent home and they know that the school would prefer if they only got a treat on a Friday and then the rest of the week we concentrated on healthy food (Interview RoI 3).

One of the first things we did was to introduce a healthy snack time, which became school policy. Now as you can imagine with parents, that wasn't exactly an easy thing to implement because parents quite often don't want to take the time to make sure that the children are eating healthily, but by and by we actually found that the resistance wasn't as big as we thought it would be (Interview NI 4).

However, the difficulty of maintaining a focus on healthy packed lunches as pupils progressed through the school was also noted:

I think it's more focused on when they start school. It's not focused on as much as they go up the school because it's expected of the parents that they understand the rules and regulations because it's been implemented that much and pushed on them from junior infants on, but it's not pushed as much as they go up the school, definitely not. (Interview RoI 1).

A number of teachers noted that the quality of snacks and lunches often deteriorated as children progressed through the school, sometimes as a result of allowing pupils more autonomy over their food choices:

In reality the children in P1, 2 and 3 do bring beautifully prepared and presented very healthy breaks... Then it kind of goes a little bit by the wayside as we go on up, and it becomes a great thing in primary 4 to be allowed out at twenty-five to ten and go up to the canteen and get your slice of toast. I suppose it's handy for parents as well, but we don't see the same amount of fruit and veg being eaten in the senior school as we do down in the infant end (Interview NI 3).

Notably, in instances where foods included as snacks or packed lunches did not adhere to those advocated in the policy, there was reluctance on the part of teachers to intervene:

Maybe the one gap in that approach would be, for children who bring packed lunches, when their parents pack the lunch they're encouraged to put in healthy things, but in a sense we've not taken the next step of saying "you must" because, we sort of feel as a school we want partnership (Interview NI 1).

Certainly no monitoring – they are encouraged to bring [healthy food] but we can't stop them if they bring a bar of chocolate, a bag of crisps, whatever else – we can't stop them but they are encouraged. I've two children that bring beautiful packed lunches, with lovely fresh fruit salads. I'd say "What a beautiful packed lunch" and make a point just to encourage the others, but obviously it's very difficult (Interview NI 5).

While school meals were not provided in any of the schools in the RoI, these were the norm in the schools in NI. The experience of how the healthy eating policy had translated across to the provision

of school meals varied between schools. One teacher explained how the policy had been adopted in the canteen:

They're [school meals] tied in as well – chips are only available one day a week for example. There are two if not three types of vegetables available with every meal, and also for dessert there's a wide range of fruit available. An example of dessert one day could be sponge cake and custard, but there's always fruit, apples, oranges, pears also (Interview NI 2).

Another teacher noted the lack of policy cross-over as an issue of concern, while acknowledging that some positive changes were occurring in this area:

We really felt we had ownership of break-time but we didn't have ownership of what happened in the canteen because they're really under a different agenda, and one of the biggest problems was that one threw against the other a little bit. But at least we felt we were doing some good, and now there have been changes over the years regarding the canteen; they're not in an ideal place, as far as I'm concerned, but there's more a meeting of the ways (Interview NI 3).

- **Healthy eating policy as a component of a whole school approach**

The teachers were clear on the fact that the policy was something that went beyond addressing healthy eating. A number of teachers articulated that the policy was embedded in the broader whole school environment:

In the current school that I'm in there is a school policy on healthy eating. It's basically not just healthy eating, it's healthy living...it encompasses not only healthy eating but a healthy lifestyle in general (Interview NI 2).

We think it's bigger than eating. We are very actively involved in helping our children to be healthy in terms of exercise and mobility so we also have....an approach to walking and cycling to school, which is recorded daily (Interview NI 1).

Furthermore, it was highlighted by teachers in both jurisdictions that a symbiotic relationship existed between the healthy eating policy and the components of the curriculum which dealt with food and nutrition themes. One teacher explained how having a formalised focus on healthy eating, health and wellbeing within the curriculum in PDMU had brought a renewed emphasis on it throughout the school:

I mean when I was trained these sorts of things were called the hidden curriculum, and yet they were the glue which held everything together. A good primary school, I feel, needs to be proactive in these things, so I love the way it has brought all of that to the fore and made it curricular and statutory, I think that's really important (Interview NI 1).

4.2.2 Teaching and Learning

The questionnaires had identified that there were variances in emphasis placed on different aspects of food and nutrition-related content in the differing syllabi in both jurisdictions. Hence, the teacher interviews explored these actual differences in greater detail. Four themes emerged from the face-to-face interviews concerning teachers' experiences of teaching and learning with regard to healthy eating within SPHE/PDMU. These are as follows:

- The organisation and management of SPHE/PDMU classes
 - The practice of employing cross-curricular approaches in teaching SPHE/PDMU
 - The impact of school-based interventions on the teaching of healthy eating
 - The position and status of SPHE/PDMU as a curricular area.
- **The organisation and management of SPHE/PDMU classes**

It was evident from the quantitative study that the majority of teachers adhered to the prescribed time allocation for teaching SPHE/PDMU. However, it was felt that further details were required regarding how this was operationalised by teachers in practice, and in particular teachers' experiences with regard to the healthy eating and nutrition components. Although there was general agreement that SPHE/PDMU were important parts of the curriculum, several teachers felt that perhaps more time could be devoted to it and strands within it. Furthermore, as an area on the curriculum, it was not always prioritised:

[SPHE could have] probably more time to be honest, but we don't have the time because there's so much in the curriculum and sometimes it depends on the week. I have it timetabled in and we are supposed to do it on a Thursday afternoon, but there could be something else that could happen and it sometimes is left out (Interview Rol 3).

I wouldn't say enough time is spent on healthy eating if I was honest. I don't think enough time is spent on it, because when you think about it they should be educated earlier about it because their eating habits form when they are this age and it's supposed to continue on (Interview Rol 1).

Some teachers expressed the view that it was difficult to cover all the material set out in the syllabus within the allocated time:

It's very little really by the time you have the lessons set out – thirty minutes – a very small amount of time. There are other parts to the SPHE as well – it's not just healthy eating and foods – so realistically you would only spend maybe three weeks on the food and healthy eating and that's it (Interview Rol 4).

You know you're looking at your planner and you're thinking – I've only three weeks to Easter, I have to do a, b, c, d, e, f, g ...and it's just thinking about that – but yes, I think if you were having forty-five minutes a week you would be very lucky to get that done (Interview NI 5).

The issue of curriculum overload emerged quite strongly, and the concerns regarding possible future changes to the curriculum and the potential impact this might have on non-core areas were noted:

It's packed, it really is. because they're talking now about cutting back on art and music and a few other subjects as well in order to allow for literacy and numeracy, because the results on literacy and numeracy have come way down, so they're trying now to give us more time for those two subjects. Basically the same way it was when we were in school, there was far more emphasis put on English and maths than there is now (Interview Rol 1).

Really I'll be honest now – the emphasis now would be on the literacy and numeracy because there has been a drop in standards, and there's a major push on that (Interview Rol 5).

- **Evidence of employing cross curricular approaches to teaching themes**

There was a clear consensus that elements of healthy eating and nutrition related content were not only confined to the SPHE/PDMU curriculum. The teachers explained that both of these topics were dealt with in the teaching of other curricular areas and through other subjects. Thus teachers were consequently reinforcing healthy eating messages frequently in their teaching of these other subjects:

The good thing about healthy eating, I suppose, is that it overlaps with other subjects – like it's taught again in science, and then I suppose in English with oral language development, with infants particularly, fruit and vegetables are re-introduced again with oral language activities. So it overlaps with different subjects, and you tend to go back over some of the information that they've already done (Interview Rol 1).

Well it's not only the SPHE because we do it in science and we do it in English, because when I do topics I try to get them right across the board. We get as many activities, say for example in art, where we would do fruit and veg painting. (Interview Rol 3).

I think it runs throughout all the teaching – I mean you're teaching history and you're teaching famine times, and we often talk about potatoes in healthy lifestyles and how people died from famine and why the potato was a staple diet at that time, and why we have a balanced diet now. It comes into language and literacy obviously, I even tend to do it in maths with my year sixes in terms of, I'm doing money...and I would often let them do the weekly shop (Interview NI 2).

So it's all the time in everything...in SPHE it's completely cross-curricular. Like when the dentist came, we were going over their permanent teeth, their first teeth, their milk teeth and the value of brushing their teeth, the value of eating the proper foods and also letting them become aware that there are certain fruits that can be high sugar content...But everything in moderation is OK. And then what a poor diet of bad food can do to your system and your teeth and to your overall well-being (Interview Rol 2).

- **The impact of school-based nutrition interventions on the teaching of healthy eating**

Findings from the questionnaires indicated that most teachers had experience of school-based nutrition interventions and that these were regarded positively by the teachers. The face-to-face interviews presented an opportunity for teachers to elucidate on their experiences further. A variety of views were expressed regarding the long-term benefits of interventions. It was noted that having the intervention in place had highlighted for the teachers the paucity of time that was actually devoted to healthy eating:

[Food Dudes] is great because you see the kids coming in the next day saying 'look I've got cucumber with me because I want to show off look what I'm doing' and that is just brilliant. It really brought home to me how little we're doing in the class situation. It's just brilliant when you see what could be done... if you had the chance (Interview Rol 5).

One teacher described how the healthy eating practices which *Food Dudes* set out to encourage had continued within the school:

It finished in June... but we're running it ourselves now so we're looking at the things children are bringing from home (Interview Rol 3).

The *Food Dudes* programme was very good – it definitely has increased their awareness and they'd be much more interested. You can see it in the lunchboxes - you see it with increased fruit, and maybe the tomatoes – not so much the cucumber – and the carrots definitely were very popular. You wouldn't have seen that before the programme, and it has made them more aware and kind of conscious (Interview Rol 5).

We are tied into a number of healthy eating challenges. We have the *Active8* one ongoing at the minute – that's the FSA one where they have to look at the number of glasses of water they drink a day, and the fruit and veg, healthy eating, and what is the amount of exercise they take per week, per day. That's almost like a diary, a food diary, a lifestyle diary over the course of a week (Interview NI 2).

For another teacher, running the intervention in the school was the impetus for drawing up the healthy eating policy:

We were part of *Bright Bites*...I don't know whether you're familiar with *Bright Bites*? That was from the North Eastern Board and was linked in with all the trusts in the school. They were wonderful, they helped us draw up our very first healthy eating policy, they had formats, letter formats to send out to parents, they had guidelines as to what was and what wasn't healthy (Interview NI 3).

Another teacher noted the length of the intervention as an issue:

That was the aim, to try and change their eating habits, but it needs to be longer, it's a fantastic idea and it did work at the time. It was a short-term thing (Interview Rol 1).

- **The position and status of SPHE/PDMU as a curricular area**

The earlier section dealing with the organisation and management of SPHE/PDMU on a day-to-day basis within the classroom highlighted a variety of practices regarding the teaching of SPHE/PDMU. Whilst issues such as the overcrowding of the curriculum were raised, the sentiment was also expressed that formalising these as curricular subjects had enhanced the position and status of diet, health and wellbeing within the school setting. This was noted in particular by teachers from NI:

I think maybe before...it [healthy eating] was viewed as important, but now, because it is part of PDMU, it becomes more part of the curriculum (Interview NI 2).

The things that help are obviously the fact that it is there within the PDMU curriculum you can't miss it and you can't avoid teaching it....it's there and you must do it...it's a requirement. I mean you have statements of minimum requirements throughout PDMU and you have to fulfil those. Plus I think more schools are more inclined to look at healthy eating and healthy lifestyles – so that's the way forward (Interview NI 2).

Teachers were keen to emphasise that despite curriculum overload, SPHE/PDMU as a curricular area was valued both by themselves and by the pupils:

I enjoy it because I see the value of it and I see that it sets them up for life. You are teaching life skills on a daily basis, whether it's behaviour or how to do something, how to eat. It all comes under that umbrella. You're sort of setting them up to be independent, so that they can make the right choices and have knowledge around right choices (Interview Rol 2).

It's extremely important, not just from the nutrition point of view but from all the other parts of it, like the 'Stay Safe' programme or how they feel about themselves: self-esteem, the bullying aspect and all that. It's all extremely important (Interview Rol 3).

But if a teacher genuinely sees their children as a whole person, then their maths and their English of course are important. But so also would be their health, their exercise, their attitude to themselves, their attitude to others, and I think that maybe is at the heart of all of this. If the teacher's approach is, I am a teacher of children, not just a teacher of subjects, then there's more of a chance that they will key into that (Interview NI 1).

4.2.3 Resources and Support

As stated previously, questionnaire results indicated that within both jurisdictions, there were inconsistencies in the types and availability of resources and support pertaining to healthy eating/nutritional related information. Hence, the qualitative findings pertaining to the resources and support demonstrated the following emerging themes:

- Educational classroom resources
- Physical resources
- Means by which the resources were obtained
- Professional development for teachers

- **Educational Classroom Resources**

The majority of teachers in both jurisdictions identified a number of resources for the teaching of healthy eating available for their use (See Appendix B for examples):

I know that in school there are numerous resources for healthy eating (Interview NI 2).

You've got such a variety of resources, you don't have enough time to actually use all of the resources available (Interview NI 5).

However, a number of teachers, specifically in the RoI, commented on the availability of resources being very fragmented and disjointed. Teachers commented on the need for a coherent set of SPHE textbooks and resources:

It's somewhat bitty, I'll be honest now – there isn't a specific book on that [healthy eating] area, unlike other areas like relationships and sexuality – there's a whole section on that, feelings and the rest of it. The healthy eating was pretty much left to what you got yourself, so that companies would send things into us so we'd have posters on dairy products. The North-Western Health Board gave us some sample lessons, but beyond that you're kind of dipping and looking for yourself and trying to find stuff that you can use (Interview RoI 5).

For SPHE there's a "*Walk Tall*" resource – you've different books for different parts of it. You would have about five publications from different companies [for other subjects] – there's a wide variety. You're more limited with this [SPHE] and it's very open to interpretation, some of it, whereas maths and English and Irish are more concrete – you know exactly what you're doing (Interview Rol 1).

A number of teachers made reference to the use of websites through the interactive whiteboard as a teaching resource:

There are numerous websites, because every teacher now teaches through the interactive whiteboard and there are so many resources that we use online (Interview NI 2).

We've all interactive whiteboards now and you're connected to the internet ... and there's so much software that each lesson can be enhanced to the level of the classroom (Interview Rol 2).

Additionally, a number of teachers identified the important role that statutory and voluntary agencies and supermarkets play in providing resources for use in the classroom. Guest speakers are also engaged to visit the students to present on healthy eating:

The health promotion agency are very good. Some of their material is very good. I know there's a dietician attached to North Eastern Board and she regularly sends out letters and information if there's anyone who needs help. I'm not sure that we've necessarily availed of her but I know that source is there (Interview NI 1).

And then obviously anything that comes in from outside agencies like the Dairy Council or anything like flyers or leaflets that would come in through school (Interview NI 5).

We would have got that from the health promotion – they're quite good at sending in things. (Interview Rol 2).

The importance of impartiality of the message delivered by the guest speakers, and in particular speakers from supermarkets, was also commented on:

We invited a lot of different folks in from different agencies, and even the supermarkets were great. There are quite a number of groups out there, and obviously some of them have other agendas. But genuinely when they come into school they treat the children properly, they're not just coming in with a selling hat, they will do a genuine job for the children. We found that a few years back when we worked with them and found them very helpful. So I think there's plenty of support if you want it (Interview NI 1).

It is awkward to be honest because you're waiting for some kinds of companies to send things to the school so you will get posters but obviously their information is weighted towards themselves – so it's not all going to be OK (Interview Rol 5).

Specific resources including books and posters were also mentioned by teachers in both jurisdictions as teaching aids in the classroom. The *Walk Tall* and *Making the Links* (see Appendix B) resources in the Republic of Ireland were referred to a number of times by teachers in the Rol. In Northern Ireland they had resources such as the *Catch file* and the Council for the Curriculum Examinations and Assessment (CCEA)'s *PDMU Progression Grids*:

The *Catch* resource is a great big, A4 file. It's a white file called the *Catch Resource Pack*, and inside there are a number of lessons right the way from foundation to Key Stage 2 that you can pull out and you can teach it as an entire block; or you can pull it out just to see what's useful in your daytime teaching (Interview NI 2).

I have this book called food and healthy eating...and I suppose over the years I've picked up often times posters which come into the school. This is an 'apple le crunch', but it just has great ideas (Interview Rol 3).

The importance of having visually interesting and stimulating resources (see Appendix B for examples) was also referred to by a teacher as a key aspect to any resource used in the classroom:

You know visual aids are just incredible for the younger ones. They seem to need it, they're able to retain it better and to it's easier to explain it to them (Interview Rol 2).

You have a big triangle and you stick Velcro onto the back of different foods. You have a little bit of Velcro and you stick it on with tape and then you put up the triangle and you explain what foods we eat a lot of at the bottom. You wouldn't really name carbohydrates, proteins or anything like that, but you would say – which foods do we try to eat a lot of, how many do we try to eat a day? And then they stick it up themselves so you're guiding the learning and letting them take responsibility for it (Interview Rol 1).

Teachers engaged in food tasting sessions as an active methodology in the teaching of healthy eating:

[In the junior infant class] you would have [food tasting as] sensory analysis, it would be like blind testing, which is something that I always make a point of doing because they absolute love it and they learn an awful lot from it as well (Interview Rol 1).

I would bring in healthy foods and this year we would have made a large food pyramid, and I had pictures [of food] and they cut them out and put them in the right places. It's something practical that they can remember and for the younger children we would

bring in the actual foods and let them taste them and put them in the right categories (Interview Rol 4).

Interestingly, one teacher reflected on the benefits of studying Home Economics as a subject in post primary school which now informed her teaching of healthy eating:

I think a lot of what you know is from home economics, going back to when you learnt it in school many years ago – it's amazing what you can remember. There's a lot you can't remember but there's a lot you can remember whenever you need to.... just basic food and hygiene, they always sort of stick with you. Then obviously there are the resources we have within the school and then the internet as well which is a wealth of knowledge (Interview NI 5).

- **Physical Resources**

The teachers gave some interesting insights with regards to actual physical resources, which ranged from school gardens to food preparation and cooking facilities.

It is evident that a number of the schools in both jurisdictions were involved in the running of a school garden project. In the main the responsibility for the maintenance of the garden involved all years in the school and the students had input into the types of vegetables and fruit which were grown. In a number of schools there was also a poly tunnel which was used for the growing of fruits and vegetables. Composters which were used for any food waste were also common:

The school I'm in presently we have a school garden at the side and the children chose the plants that they wanted to grow. There's actually a vegetable patch and a flower garden (Interview NI 2).

We have an organic garden and we've had it for the past three or four years and we've sown vegetables and we have a tunnel where we've set strawberries (Interview Rol 3).

We have one [school garden] and we've sown our own potatoes from the beginning. What else did we sow? We've a plot over there in the garden for herbs and then we have little sort of wheel tyre plots as well where they'd sow their own vegetables. We've planted so many carrots and onions, and tomatoes as far as I remember and strawberries (Interview Rol 2).

I was mostly responsible [for the garden] and I used to bring classes out and we'd sow herbs. I didn't actually feel that enough of the children knew what exactly was going on in the garden, but this year we changed it, and each class this year has a ridge, their own ridge (Interview Rol 3).

Certainly the compost is collected – we put all our peelings and whatever's left in a little tub or bowl, and then the Year Sevens come around after break and they collect it and then they bring it around to the staffroom where there's a larger area for collecting the compost, and then that's brought out to the compost heap outside and then used for the garden (Interview NI 2).

They planted their own [vegetable] seeds or whatever and then they can go out and see how they're progressing. They're really excited about it and even about the idea that they have grown it themselves. You know when I dig up those potatoes next June they're going to be just amazed – like there's actually potatoes there, or carrots or peas or beans. So it's just to make them more aware, and I suppose a lot of children would be interested then in doing it at home ...so it's brilliant (Interview RoI 5).

The harvesting of the produce from the garden involved both the parents and the students in a number of schools. It provided an opportunity for the students to taste the produce that they had grown:

Last year we did a salad day as well because we had lettuce, scallions, and tomatoes in the tunnel (Interview RoI 4)

At certain times through the year, they go over and they tend to the beds behind Hazel House and there comes a time of year when they'll go over and they'll harvest their veg and take that home and cook with that (Interview NI 1).

We don't actually have a cooker and things like that here in the school. But what we have is a brilliant parents' association, and each year, when we come back in September, the produce from the garden is all harvested and brought in and we have a cooking day. So the parents come in and we have soups using the carrots and the potatoes, and they make chips - healthy kind of chips made directly from the potatoes – and things like potato cakes, and we just have a fun day with it (Interview RoI 3).

You get to see the veg and they can cook them, but now they obviously don't have facilities to cook anything [in the school]. So [it's about] growing the things and sending them home with the kids. It isn't the same thing – it would be nice if you had the facility so you could do that [in the school](Interview RoI 5).

The benefit of participating in a schools gardens project was commented on by the teachers:

Just this idea of giving the children the sense of involvement in growing things that actually contribute to your diet, and how good that is and how healthy and right that is (Interview NI 1).

It is [a real active learning methodology] and they love to get out and just the whole excitement of it - everyday they're saying 'when are we doing it?' You know they'd be really excited and very enthusiastic about it (Interview Rol 5).

Teachers explained the cross-curricular learning opportunities that were maximised through a school garden project:

It's kind of all linked in as well – there's science and there is the SPHE programme. So we teach by looking at the nutritional value of all the vegetables that we're growing – maybe even linking it in so that on the last day we can actually make soup. We're hoping to have a herb bed as well. So [there's the] uses of herbs for medicinal purposes as well. You can see how it can apply to a lot of different areas across the curriculum (Interview Rol 5).

It [the school garden] has to be part of the whole science, SPHE and total curriculum. You know that you can actually go out and do science and SPHE out there (Interview Rol 3).

A number of schools, particularly in NI, made reference to the importance of partnerships with organisations that can provide physical resources such as access to garden or cooking facilities:

We have a partnership scheme running with the National Trust and our P7 pupils go over to Hazel House, and they grow veg there. And then next year's P7s will be the beneficiaries – they'll harvest it then they'll grow more and they'll tend it. We're blessed because Hazel House is there – the National Trust folks have been fantastic and having this wee partnership with them has been wonderful, but that wouldn't necessarily be a practical thing for every school (Interview NI 1).

[We are involved in a] shared education project where students from different schools in a cross community environment share their resources. This works well as it allows students to experience practical food / cookery sessions. (Interview NI 2).

The cost of establishing the garden was grant-aided for one of the schools. However, some teachers commented on the limited space and cost of seeds etc. as being an issue. Two NI teachers were of the opinion that schools need to prioritise interactive projects such as school gardens:

Though we just got some grant aid and got the school garden developed and it looks now with the raised beds we have that we can achieve similar things with the younger age group pupils that we have been achieving with the P7s, obviously there's a cost issue. That grant was six thousand pounds and we needed all of that when it came to conservation. Volunteers [helped by] doing groundwork for us and building beds and even fencing to segregate areas off. If we hadn't had that it would have left us with big decisions to make in terms of...do we prioritise that? (Interview NI 1).

We try to build up resources, so cost is an implication – not the cost of things like seeds – but just getting started and getting the infrastructure and the structures in place to do that. If you've a school that maybe doesn't have much in the way of space, then you've got to think very carefully about how you do this (Interview NI 2).

A number of teachers in both jurisdictions reported limited access to shared school food preparation facilities:

You know we've a class...we've a kitchen down in the learning support centre, and they would do an awful lot of cooking when I was in LS. We would've cooked maybe once a week - a healthy meal (Interview NI 3).

I'm the only one that has a cooker here at the back of the class. This used to be a kitchen which was used by the HSE and I've used it for making pancakes for pancake Tuesday (Interview RoI 1).

We have that [facilities for teaching cooking], would you believe. Now in sixth class this year we're very fortunate because one of our teachers – her husband is a caterer and he is unreal and we get him in and his food is out of this world. So he was in with sixth class this year and we made pizza, healthy pizza, they all made pizza bases and everything was healthy. We're lucky because we've the cookery room and this is an Ursuline school with a lot emphasis on cooking and sewing and all of that (Interview RoI 2).

Teachers reported engaging in some form of practical food sessions despite having limited resources available. The cross curricular approach to the teaching of food skills was also very evident:

I know last year I was teaching the topic of Italy, and we made bruschetta. They were quite easy to make and we made Spaghetti Bolognese and we made Italian salad (Interview NI 2).

Last year, whenever we did World War II, do you remember Lesley's mum came in and she made wheaten bread and soda bread and all the old fashioned fresh breads (Interview NI 3).

With each of our lessons, we did the teddy bears topic and within the teddy bears topic we made porridge and that was the highlight. Pancake Tuesday we made pancakes and we talked about it for three weeks and they're still talking about it - they were going to make the sandwiches and also fruit smoothie for the teddy bears picnic as well. Because we're thinking of what kind of healthy drinks we could have, and they've a choice of water, milk and fruit smoothie and they make up their own. Then we come onto the farm topic and I can't remember what it is we do because I haven't done it yet, but there's a practical. So really there are four practical sessions throughout the year (Interview NI 5).

Innovative ways of introducing the students to practical food preparation were employed by the teachers when they could not access cooking facilities:

You know there are ways around that. For example I know for Pancake Day and things like that we used electric frying pans but they're not ideal, and we don't advocate children using microwaves to be quite honest (Interview NI 2).

We all do pancakes, we did pancakes this year (Interview NI 3).

Down the school they would do an awful lot of [practical] work on that. They would make fruit salad and they would do fruit kebabs for the healthy day. They would do an awful lot down in the infant end: P1, P2 and P3 (Interview NI 3).

I've seen a colleague of mine work very successfully running a healthy food club when she worked in class with children. A lot of the equipment that she used came as part and parcel of a little kitchen that was mobile which was brought into the classroom, and she worked a lot with things that didn't have to be cooked....so it was raw foods and salads and smoothie and I think with a lot of things it's possible to do it in class. It's going to put the onus on teachers again to sit down and put more time into working out the logistics (Interview NI 4).

I'm talking about what our healthy lunches can be, and can they make up a healthy sandwich and actually physically do it. We're providing them with the bread and with a selection of whatever they want to put in, and they're going to have to pick it and they're going to have to make the sandwich with the different fillings and actually physically do it (Interview NI 5).

You would take in your own stuff, I know for Pancake Tuesday you just take in your own electric griddle, but I know for the porridge we used the microwave in the staffroom and I know that the kitchen is always there. I don't know how free and open the ladies would be about you using it. I've never had to use it in our school. I know in some kitchens they're very willing to let them in and others are not...so you know again that's another hurdle that you have to overcome that prevents you sometimes from doing the things that you would like to do. It's the same thing now coming up with Easter – like I would love to make a lot of chocolate mess or whatever with them but you think can I do that with them? Is there any way I can get the chocolate melted in the room? You know I would love to do it but is it practical? Is it safe to do it? Again that's what it all comes down to (Interview NI 5).

Although there was generally a positive attitude towards practical food classes, a number of teachers cited various reasons as to why practical food sessions were limited in the classroom. In the majority of cases lack of available resources, cost, concerns over health and safety, physical space and pressures of the curriculum were cited as the main barriers:

In some schools it's a resourcing issue because obviously not every school or every class has its cooker, but some schools are slightly more precious about their kitchens than others ... you may have some teachers who don't want to do it at all and then you've others who would love to do it but don't have the resources. Maybe the resources just aren't available and you can't use the kitchen and you can't use the office (Interview NI 2).

It would be very useful to have a cooker but there would be health and safety issues there as well. But it would be useful to have it in the school, even if it was in the staffroom or in an area that all your classes could go to (Interview RoI 4).

So it's not on the curriculum which is why once or twice a year I would use that cooker, because if I have a little bit of free time I will do something like that with them. But generally it's not on the curriculum so you don't do it because it's hard to fit in. (Interview RoI 1).

With [just] the microwave being in the staffroom, you know the classroom assistant can go up and melt the chocolate and bring it back down, but it's not the same for the children. Yes, they can break up the chocolate and they can have hands-on activities to do, that but then it's taken away and brought back and they're sort of missing out on actually seeing it happening (Interview NI 5).

I would love a cooker in here in the classroom to be honest, but we have a relatively new school and there isn't space at the moment in the kitchen, so what they do when they have the cooking day or Pancake Tuesday, we bring in small stoves like camping stoves and that's what the parents associated [with the school] do on the cooking day – but it would be lovely to have the facility here to bake bread (Interview RoI 3).

The thing that might impede the teaching of it would probably be time resources, funding and teacher interests (Interview NI 2).

It's not at all [conducive to incorporating active learning methodologies]...to be honest now, twenty-nine plates, paper plates with cress seeds on top of them. It would be lovely to have an area where you could get all the food preparation done and where you could bring them all in together and cut and chop and do the things together rather than taking a paper plate and a scissors on the table and everybody trying to squeeze around and look at you. It would be lovely to have an area in the school where you could do all of that and if you could it would be a kind of kitchen area (Interview RoI 5).

Higher up they never do any cooking because it's not on the curriculum, and you're basically bombarded with so much to do. Literally every minute of your day has to be accounted for – if a *cigire* [inspector] comes in you have to be teaching a particular

subject at the particular time, that's what is expected of you. So, it's not on – which is why once or twice a year I would use that cooker because literally if I have a little bit of free time I will do something like that with them, but generally it's not on the curriculum so you don't do it. It's hard to fit in but if it was on the curriculum you probably would (Interview Rol 1).

However, notwithstanding the limitations, teachers reacted very positively towards the idea of having cooking facilities in their classroom or as a shared facility within the school. The benefits of practical food sessions were stated by a number of teachers:

I'm only talking from a very personal viewpoint, but the curriculum, particularly Key Stage 2, is a very busy part of the school, and children are so busy and so much learning has to take place. Maybe sometimes the practical element doesn't come to the top – it's more the decision making and the management and the thinking skills we tend to build as opposed to actually doing the thing (Interview NI 2).

I'd love personally to see time being set aside for children to do cookery and to really learn and to build up some links with parents as well, and give parents some education – because I think that's where it starts – at home – and we can give the children a little bit, but unless it's embedded into their own culture as well, it's going to be a very slow process to change it (Interview NI 4).

It would be fantastic because if children don't actually learn and see food being prepared and be able to do it themselves, then how are they ever going to do it when they grow up (Interview Rol 5).

- **Means by which resources were obtained**

It was very apparent that schools in NI relied to a certain extent on collecting tokens from supermarkets to purchase equipment for the school. This was not referred to by any of the teachers in the Rol:

We collect the tokens all the time. The Sainsburys tokens mostly have gone towards games equipment and they have been very practical, but we've also got some resources from Sainsburys for the garden project, little children's tools and things. We also got materials from Asda, from one of their schemes and their's is all green stuff and thus environmentally friendly. We also do the Tesco scheme, and mainly we have used it for IT stuff, but those are all quite good schemes. There's a Nestle scheme but I don't think it's so useful. But these supermarket schemes are (Interview NI 1).

On one sports day Sainsburys came and they brought boxes of oranges and apples and we'd access to that during our break ... we use their tokens to buy equipment. But

through Sainsburys we've got an awful lot of outdoor playground equipment. We have a store outside and it's just full of things that the children take out only when they're outside, you know it's separate from PE inside. We couldn't as a school really have afforded those out of our own budget so it is very good (Interview NI 3).

One school in NI did not participate in the scheme as they had no access to the participating supermarkets:

No, quite possibly because there's not a Sainsburys in my local area I think the nearest one would be in Derry (Interview NI 2).

It was very apparent that teachers frequently purchase resources for use in the classroom at their own expense:

It comes down to the teacher's pocket quite often. I know that when I did the fruit, the 'sparking the imagination project', and we did the fruit patterns and we tasted the fruit, it cost a fortune. It was very expensive and that is often where these things can fall down. But in saying that, you know it's possible to do it on a budget, it would be a case of schools prioritizing (Interview NI 4).

- **Professional development for teachers**

There was a mixed response by teachers to the potential for professional development and in-service programmes in the teaching of healthy eating and nutrition. Some teachers stressed that availing of such professional development was important:

Definitely yes – I mean children spend a lot of their time within the classroom and sometimes maybe healthy eating isn't modelled for them at home, so they have to learn about it somewhere (Interview R1 4).

I think [it is important] because nutrition has a huge effect on how children perform in class, and you know they're not bringing in the fizzy drinks and they're not bringing in the bars of chocolate because it definitely contributes to hyperactivity. I suppose maybe teachers do need training on it to be honest, because certainly in training college we never did anything on food and nutrition, but that's a good few years ago. The SPHE wouldn't have been as strong then as it is now – that has come in more in the last ten years (Interview R1 3).

However, other teachers commented that such programmes were not readily available:

...there's courses ran in the education centre, I think one or two then on healthy eating there over the years but recently I haven't seen one but normally that is completely at the discretion of the teacher to go (Interview R1 1).

With regard to Initial Teacher Education, teachers reported mixed experiences of exposure to content pertaining to healthy eating and nutrition related areas:

With initial teacher training I have to be honest, I don't know how much focus is put on nutrition. I think teachers at that stage are more concerned with learning the literacy, the numeracy, the basics, all the pedagogy, and possibly it isn't until that becomes a bit more embedded that you think how you can do that creatively and address nutrition (Interview NI 4).

One of my concerns would be that teacher training has become much more technical these days, and there is lots more talk about monitoring and evaluating and targets and all of those things. But if a teacher genuinely sees their children as a whole person, then their maths and their English of course are important, but so also would be their health, their exercise, their attitude to themselves, their attitude to others. If the teachers approach is, I am a teacher of children, not just a teacher of subjects, then there's more of a chance that they will key into that (Interview NI 1).

When it comes to training, I know in terms of the PGCE course, it's so busy. I don't know whether it [healthy eating and nutrition] actually needs to be there (Interview NI 2).

I did the B Ed in Drumcondra, but in third year we had the choice of teaching an elective, and an elective means that you just focus in on that area for the year. There are many different areas, and I chose nutrition. We learned about the conditions related to being healthy and not healthy, and all about the food pyramid (Interview RoI 4).

4.3 Conclusion

In conclusion, it was evident from both the quantitative results and the qualitative findings that there were a number of commonalities in the reported experiences of teachers in both jurisdictions. The implications of these will be discussed in more detail in the following chapter.

Chapter Five: Discussion of Results

5.0 Introduction

This chapter concentrates on the key results and findings of the previous chapter. Both SPHE and PDMU are now statutory subjects on the primary school curriculum in the Republic of Ireland and Northern Ireland, albeit they occupy a smaller proportion of teaching time than many others. Notwithstanding this, the benefits of having this curricular area formalised within the curriculum was endorsed by all the teachers we interviewed.

5.1 Whole School Approach

An interesting finding which emerged from our study was that having healthy eating formalised in the curriculum as part of SPHE/PDMU has heightened awareness of healthy eating in the wider school environment. The majority (92%) of schools had a whole school approach to their healthy eating policy, with most having strong staff involvement in the actual development of the policy. In fact 119 teachers ranked a whole school approach as the most important factor for the successful teaching of food, healthy eating and nutrition issues. The teacher interviews concurred with this, and explicitly highlighted the embedding of the policy in the wider whole school environment. This was a positive finding, as according to Young et al. (2005), research has demonstrated that a whole school approach is far more effective than a curriculum only approach. In NI schools, where school meals are the norm, the importance of having the healthy eating policy implemented in the school canteen was raised. This highlighted the fact that policy crossover into the broader school environment is a must.

Furthermore, it was reported by teachers in both jurisdictions that a reciprocal connection existed between the healthy eating policy and the components of the curriculum which dealt with food and nutrition themes, as one NI teacher explained:

I think before [the revised curriculum] healthy eating wasn't viewed as that important, but now, because it is part of PDMU, it's part of the curriculum and it's also part of the school, if you understand me (Interview NI 3).

Indeed, research continues to suggest that having a whole school approach to healthy eating is an important aspect in reinforcing the subject matter dealt with in the formal curriculum. In a review of Personal, Social and Health Education (PSHE) in the UK, the Office for Standards in Education (Ofsted) (2007) suggested that the standards set out by the National Healthy Schools Programme (NHSP) have been the development which has had the most positive impact in boosting PSHE in the curriculum. The NHSP, which is a joint initiative between the Department of Health and the Department for Children, Schools and Families (DCSF) sets out four obligatory themes that schools

must adopt in order to achieve 'healthy school' status, and 'healthy eating' is one of the four. The whole school approach is implicit throughout the themes.

Elsewhere, this point is reinforced by Inchley et al. (2006) in an evaluation of the *Health Promoting School Model* in Scotland. Four themes emerged from their work as being important in the translation of Health Promoting School principles into practice. These are a sense of ownership and empowerment by all stakeholders; senior management involvement and leadership; collaboration; and integration into the curriculum and broader school policy. From our discussions with teachers during the interviews for this study, it was apparent that each of these was also identified by teachers as important in the Irish context.

The World Health Organisation (WHO, 2009) makes the case that as schools have a major influence on the lives of most children, it is imperative that 'school policies and programmes [should] support the adoption of healthy diets and physical activity' (WHO, 2009; p. 15). It is reassuring that issues pertaining to health and wellbeing are no longer peripheral aspects of primary education on the island of Ireland from the perspective of both policy and programme. With the introduction of SPHE into the revised primary curriculum in the RoI in 1999, and into PDMU in NI in 2007, food, nutrition and healthy eating are part of the programme of study for all children during their initial phase of schooling. Furthermore, our research has highlighted that school programmes may in fact also impact on policy at a local level. Given that there is now a requirement for schools in both jurisdictions to have in place an implementation plan for SPHE and PDMU, it would be reasonable to suggest that the presence of this whole school plan for a curricular area has also impacted positively on the formulation and adoption of broader policy within schools, including the healthy eating policy.

5.2 Healthy Eating Policy

In the majority (98%) of schools, parents were supportive of the healthy eating policy. Indeed the teacher interviews acknowledged the supportive role played by parents in preparing food for their children which would conform to the policy guidelines set down by the school. This is an important finding as Van Cauwenberghe et al. (2010) highlight that parental involvement in nutrition-related activities in schools is desirable. Interestingly, while Bucher Della Torre et al. (2010) acknowledge the role schools have to play in reaching children from all socio-economic backgrounds in obesity prevention programmes in the United States, they state that improvement in eating habits are largely the responsibility of the parents, whose role is to determine the accessibility and availability of healthy food for their children.

However, it should be stated that the teacher interviews also revealed that in some instances the adherence to healthy eating policy declined as the students progressed up the school. The teachers observed that this might be due to the fact that parents have less of a decisive role in determining the contents of the lunch box as the child gets older. It was apparent from the interviews that adherence to the healthy eating policy was also very dependent on the actual emphasis

individual teachers placed on the importance of abiding by the healthy eating policy. This results in inconsistencies between teachers and class groups regarding the actual implementation of the policy at classroom level. Furthermore, the teachers did not appear to hold their own individual copies of the policy but could access it in the Principal's office, should they so wish. The research team felt that this was a weakness in the policy implementation and one which should be rectified. It was also interesting to note that some of the teachers felt uncomfortable when having to intervene with their students when lunchbox foods did not adhere to the policy. It was very positive to note that in order to overcome this issue, teachers employed positive reinforcement as a strategy to highlight healthy eating practices, whereby they selected lunch boxes of students who had adhered to the policy recommendations and praised these students for their compliance.

5.3 Nutrition Interventions

Our research found that a large proportion (76%) of schools had participated in a school based nutrition intervention programme such as *Food Dudes*. It has been suggested (Perez-Rodrigo & Aranceta, 2001) that in order for school-based interventions to be successful, they need to 'be creative, engaging, inexpensive and widely disseminated' (p. 132). The *Food Dudes* nutrition intervention which was specifically named by teachers in the RoI fulfils many of these criteria. Following extensive piloting in the RoI, a national roll out of the initiative commenced in 2007, and is ongoing. Over a period of seven years, the intervention will be introduced to all 3,300 primary schools in the RoI (Lowe & Horne, 2009).

This initiative is part-funded by the Department of Agriculture, Fisheries and Food, as well as Bord Bia (the Irish Food Board) and the fruit and vegetable industry. Since September 2009, it has received partial funding via the EU School Fruit Scheme. Notably, this intervention is situated outside the formal curriculum as it focuses on lunchtime practices. While school-based nutritional interventions are not designed to replace the teaching of particular curricular areas, it is widely reported that interventions serve to enhance what is already on the curriculum (Lowe & Horne, 2009; Van Cauwenberghe et al. 2010). This point came across strongly in the study, with teachers from both jurisdictions reporting that interventions such as *Active8* in NI and *Food Dudes* in RoI had a positive influence because they were perceived as reinforcing the healthy eating messages which they were dealing with in SPHE/PDMU lessons. Furthermore, all the teachers who had experience of partaking in a classroom-based intervention commented that these impact positively on wider school provision practices relating to school meals, snack times and packed lunches, as evidenced by the following comments:

Makes everyone in the school aware of the benefits of healthy eating (RoI T15)

Raised the level of healthy foods being eaten in school (RoI T23)

Despite the commitment of additional time (and potentially increased workload) by the teachers during the implementation phase, Lowe & Horne (2009) report that teachers have 'come to support it strongly because the children are perceived to enjoy it and it works' (p. 171). Van Cauwenberghe et al. (2010) report there is strong evidence to support the effectiveness of multi-component interventions such as *Food Dudes* which are aimed at improving fruit and vegetable consumption by including increased availability of fruit and vegetables within a nutrition education curriculum taught by the teacher and having at least some parental involvement. It is fair to say that this seems to be the approach taken by most of the schools in the study. In NI, the intervention most frequently cited by teachers was *Bright Bites*, an initiative which received funding from the UK Department of Health for distribution to all primary schools in 2006 (Bright Bites, 2009). While developed initially as a resource for teaching oral hygiene and targeted at KS2 Science units, it also features a section which addresses healthy eating and diet. It is interesting that teachers in NI were using it for PDMU; this highlights the cross curricular nature of many of the themes in the subject.

On a less positive note, the issue of curriculum overcrowding as a barrier to incorporation of tailored interventions into the school setting has been noted by a number of authors (O'Brien et al., 2002; Warren et al., 2003). Similarly, the teachers in this study highlighted time constraints as an issue. Comments such as the following were common:

Time is really the biggest issue. There are so many other things to do (Rol T16).

In their review of the SPHE curriculum in 2008, the National Council for the Curriculum and Assessment (NCCA) reported that just over half of teachers surveyed indicated that the 'scope of content' was their greatest challenge in implementing the SPHE curriculum. Furthermore, 44% of teachers in that survey mentioned time constraints, class size and an overloaded curriculum as issues. While practical food preparation was not mentioned specifically by respondents, the challenge of organising and planning practical and interactive aspects of the curriculum was raised as an issue for teaching SPHE as well as Science. Our findings regarding teachers' experiences of not having enough time to cover the entire curriculum content are also similar to those reported recently by Long & McPolin (2010) as well as NCCA (2008).

This issue is not unique to the Irish context. In a Dutch study which addresses how school health-promotion may be improved, Leurs et al. (2006) report that the issue of 'limited time' was the obstacle reported by teachers as most likely to impact on their engagement with health promotion activities. In a study which also looked at teachers' perspectives of PDMU in its first year of implementation but which was broader in its remit, Long & McPolin found that the obstacles to successful implementation reported by teachers centred around the themes of 'curriculum overload; innovation overload; and time to become familiar with resources' (2010, p. 122).

Similarly, in a recent review of SPHE in the primary curriculum in Rol, the issues of 'time, class size and perceived curriculum overload' (p. 186) were cited by teachers as being their greatest challenge in teaching the *Myself* strand of SPHE (NCCA, 2008). In our study it apparent from the teacher

interviews in both jurisdictions that teachers felt SPHE and PDMU did not warrant the same focus of attention as other areas of the curriculum such as numeracy and literacy. A *Draft National Plan to Improve Literacy and Numeracy in Schools* published by the Department of Education and Skills in the RoI in 2010 confirms this teacher insight. It is stated in this plan that “one consequence of the introduction of three new subjects (drama, science and SPHE) in the curriculum may have been a reduction in the amount of time devoted to the core areas of literacy and numeracy” (pg.28). The report goes on to say that all teachers should give priority to the critical core skills of language, literacy and numeracy in the subjects and programmes they teach. However, on a more positive note, it is apparent that the content pertaining to healthy eating and nutrition-related issues are not in danger of being omitted, as there was a clear consensus that elements of healthy eating and nutrition-related content were not only confined to the SPHE/PDMU curriculum, but were also dealt with in the teaching of other curricular areas and through other subjects. Therefore, teachers were consequently reinforcing healthy eating messages in their teaching of other subjects:

[SPHE] tends to be inter linked to other subjects most definitely, because issues of food and things arise in so many different subject areas... so SPHE tends to get done informally across a lot of areas (Interview RoI 5).

While there is limited literature available on the Irish experience of incorporation of healthy eating interventions into the curriculum, O'Brien et al. (2002) provide some useful perspectives on how this was managed across a number of curriculum areas as well as SPHE ‘given the constraints of an already overcrowded timetable’ (2002, p. 323). They argue that while promotion of nutritional knowledge and behaviour occupies an important place on the formal curriculum, as a concept it needs to be engaged with on a broader basis within the school setting for a more long-lasting effect. Indeed this was also evident in the teacher interviews, as although the teachers were positive about the interventions, the issue of how best to ensure long-term sustainability was raised.

In the main, the literature pertaining to nutrition interventions focuses almost exclusively on the participants taking part in the intervention, with little if any attention devoted to the knowledge and understanding of those directly involved in the implementation of the initiative - which is usually the classroom teacher. Moreover, with regard to post-intervention, few of the studies which review the effectiveness of school-based nutrition interventions report in any detail on the teacher's experience of the intervention; and none focus specifically of the teacher's perception of the usefulness of the intervention as a mechanism for delivering part of the curriculum. Consequently, the teachers' voices from this study will be useful to those working in nutrition education and health promotion and those involved in reviewing the PDMU and SPHE syllabi. Indeed, St. Leger & Nutbeam (2000) acknowledge the central role played by teachers in the implementation of nutrition interventions in the school setting, noting that ‘teachers drive the program and their skills, knowledge and commitment are vital to success’ (p. 49). They suggest that addressing the continuous professional development needs of teachers is vital to ensuring that school-based health promotion activities remain effective and sustainable.

The majority (75%) of the teachers in the quantitative study stated that the food, nutrition and healthy eating elements of the curriculum were very relevant to the lives of their students. This was also very apparent in the teacher interviews, in which the teachers reiterated the fact that SPHE/PDMU as a curricular area was valued both by themselves and by their pupils. Our findings mirror those of a recent survey of postgraduate ITE students in England, where Speller et al. (2010) noted that 74% of students agreed that the nutritional health of students ought to be a school priority, and 87% felt that they had the potential as teachers to positively influence the health behaviours of students.

5.4 Availability of Resources

In both jurisdictions teachers welcomed nutrition interventions such as *Food Dudes* and *Bright Bites* because of the accompanying teaching resources and lesson plans, and commented positively from their own teaching perspective as is evidenced from the following comments:

Positive impact on professional development provides more visual aids, teaching resources and incentives for children (RoI T60)

Enjoyable, well laid out lesson plans and worksheets, posters, website (RoI T69)

It was apparent from this research that teachers reported mixed views on the availability of teaching resources. While some teachers, mainly in NI, reported that they had a wide variety of subject specific resources available, a number of teachers in RoI reported that the resources were fragmented for the subject. During the interviews NI teachers commented that they found the CCEA's 2007 *Living Learning Together* guide particularly useful for identifying resources:

Quite obviously at the moment teachers are using the *Living Learning Together* boxes because they're excellent, for PDMU. Within the seven booklets you have, one of them actually does talk about health, growth and change. Obviously healthy eating is a smaller strand within that, but children of all ages are getting involved in it, and teachers in our school are very much taking PDMU on board (Interview NI 3).

In the quantitative study 76% of the teachers did not have a specific textbook or teaching resource pack for teaching food, healthy eating and nutrition issues. The DES Inspectorate, in a recent SPHE subject report, stated that although they were pleased with the range of resources which were being used in classrooms, in a small number of cases they noted the "need to increase the range of materials specifically for SPHE that was available in some schools, in particular the provision of appropriate visual resources" (DES, 2009, p.30). Additionally, teachers in our study commented on the need to ensure that resources supplied by commercial companies remained unbiased. Indeed the DES Inspectorate in 2009 praised teachers for their efforts in reviewing resources to ensure impartiality.

In the previously mentioned Dutch study, a lack of suitable resources was cited as the second most often perceived barrier to teachers' engagement with health promotion in the classroom (Leurs et al., 2006). The study also highlighted 'lack of knowledge' and 'lack of financial resources' as issues of concern to teachers. With regard to teaching resources used in the classroom, Bielby et al. (2006) emphasised 'there is scope for updating existing resources, developing new resources, and exploring means of ensuring teachers are able to access these resources' (Bielby et al., 2006, p. 729), a point which is echoed by the DES Inspectorate (2009) in their recent SPHE subject evaluation report.

5.5 Use of Active Learning Methodologies

As previously stated in Chapter Two, active methodologies have been found to be the most effective approach in promoting positive healthy eating messages. In an evaluation of the effectiveness of school based nutrition education interventions, Woolfe & Stockley (2005) suggest that the use of child-centred approaches is critical for maintaining the interest and participation of the children. In particular activities which involve a "hands on" approach including cooking and tasting sessions are very effective (BNF, 2004). This was also highlighted by McCullough et al. (2004) where children had a preference for practical food and nutrition lessons. The obvious way to make this move would be to include practical cookery sessions into PDMU and SPHE lessons. This approach would ensure the application of the relevant nutritional theory into practice through hands-on culinary work and thereby would embed the concept of healthy eating.

It was apparent from our research that approximately half (49%) of the teachers had the opportunity to execute food practical sessions with the students in the classroom setting. The findings from the teacher interviews further concurred with this, as a number of teachers in both jurisdictions engaged their pupils in practical food classes and tasting sessions when teaching healthy eating and nutrition, and commented on the benefits of this approach. The positive benefits of practical sessions have also been highlighted by Walters and Stacey (2009): "tasting lessons encourage students to learn about and enjoy fresh fruits and vegetables, observe and draw the fruits or vegetables, use descriptive language, and express personal food preferences" (p.372). Suzuki and Rowedder (2002) make the case that the inclusion of practical learning as well as having sufficient time prescribed to food and nutrition education is important for the development of nutritional knowledge in children.

However it was apparent from the teacher interviews that the extent of practical sessions was limited as school cooking facilities were poor and often did not include access to cookers. Consequently, our findings suggest that in the main the recipes utilised were non-cooked items such as smoothie, fresh fruit salad or sandwiches. Teachers also reported concerns over health and safety issues. In a study conducted by Ridgewell (1992), key concerns of primary school teachers were also reported as food hygiene and availability of resources, and the lack of specifically purpose built food classrooms.

Young et al. (2005) highlighted that the *Council of Europe For Eating at School-Making Healthy Choices* (2003) report recommends that governments should take the necessary steps to review the

associated curriculum on healthy eating to ensure that all young people upon leaving school have the required knowledge and skills pertaining to the production, purchasing, preparation, cooking and enjoyment of healthy food. This is a clear call for the provision of practical cookery within the classroom setting. While both the SPHE and PDMU curricula do cover the theoretical aspects of food, nutrition and healthy eating, practical food preparation is not emphasised. In relation to Physical Education, Capel (2007) states that there is a need for the school subject to prepare pupils for life outside school. Similarly, if nutrition and healthy eating are to be truly recognised as important for life outside school, and if there is a recognition that food preparation skills are a prerequisite for this, then it is difficult to see how the curriculum's aims can be achieved without the provision of opportunities for hands-on work with food in the classroom setting.

In the RoI, where the suggested time allocation to SPHE is thirty minutes per week, this may arguably be a factor which hinders a greater hands-on approach. However the flexibility afforded to teachers to organise this time into longer blocks does provide scope for inclusion of practical food sessions. The inclusion of practical culinary skills into the curriculum would also necessitate funding, as school cooking facilities would have to be upgraded and teachers would need to be provided with professional development in this area. It would undoubtedly add a dynamic and fun dimension to the teaching of this subject content and obviously promote active learning methodologies. Whether or not it would reduce the incidence of overweight and obesity would need to be based on concrete evidence. However, in the absence of this, it would seem plausible to state that it certainly would assist the development of informed food choices and healthy eating practices.

5.6 School Gardens

Drawing on their research in the Australian context, Rowe & Stewart (2011) point to the important role which food in schools (both inside and outside the curriculum) plays in promoting 'connectedness' in schools. The connectedness they refer to encompasses principles similar to those on which the primary SPHE and PDMU curriculum are founded: the wellbeing of individuals, understanding and respect for others, and developing positive relationships. They too suggest that a whole school approach to health and wellbeing which is owned by the entire school community is a key factor in embedding connectedness. They point to the importance of collaborative activities in building and maintaining connectedness, and single out food-related activities both at whole class level and whole school level as being of particular importance.

The school garden project is an example of a collaborative activity which can promote connectedness within the school community. According to the UN Food and Agriculture Organisation (FAO, 2004), the school garden can act as a "platform for learning" and further "contribute to increasing the relevance and quality of education, improving the children's and their parents' knowledge of food production techniques and nutrition" (p.8). It was apparent from this research that a number of schools in both jurisdictions had a school garden project which involved the school community working collaboratively. All of the teachers in this research reported positively on participating in the

project. These findings concur with Ratcliffe et al (2011), who reported that school garden based learning can positively enhance the “school’s curricular, physical and social learning environments” (p.37). The cross-curricular benefits associated with the garden project were outlined by a number of teachers in this research and, according to the FAO (2005), such food-based strategies have the capacity to be sustainable and can influence positive dietary changes for a long period of time. According to Simpson and Freeman (2004), there is a need for health promotion projects to “focus on encouraging high levels of participation and empowerment amongst schools, students, teachers and parents” (p.344).

The FAO (2005) encourages schools to establish a manageable size garden which can be easily replicated by students and their parents at home. The school gardens witnessed during this research were very manageable and often included a polytunnel for the growing of fruit and vegetables. In the RoI the Agri Aware organisation supports the setting up of garden projects through their *Incredible Edibles* initiative. The concept of “plot to pot” was very evident in a number of the schools which participated in the research. Students had the opportunity to plant, tend to and harvest the vegetables and fruit that they had grown. This culminated in various activities which saw the students using the produce they had grown to produce salads, soup and homemade chips and having the opportunity to bring the produce home for cooking. These activities can further enhance the connectedness within the school community as advocated by Rowe & Stewart (2011) and promote the “environmental, social and physical well-being of the school community” (FAO, 2005, p.5).

5.7 Government Interdepartmental Collaboration

Very few schools had funding to support the implementation of a healthy eating policy. According to Young et al. (2005), one of the main barriers to the implementation of healthy food provision programmes across Europe is the lack of funding for the schools themselves to implement programmes promoting healthy choices of food in schools. This is a very short-sighted approach as obesity levels continue to increase amongst young children, especially in Ireland. Funding the implementation of school policy on healthy eating is something that warrants further consideration as the initial costs would surely be outweighed by long term health benefits (Finklestein et al., 2004; Marks, 2009).

In Scotland, Inchley et al. (2006) found that provision of funding for health promotion activities was important not only for practical reasons but also because it acted as a means of empowerment. Indeed, other stakeholders and government bodies need to realise the potential of the food and nutrition area on the primary school curriculum. Evidence of some collaboration in policy formulation between government departments is apparent in both NI and RoI. In the RoI, the *Food & Nutrition Guidelines for Primary Schools*, published by the Department of Health and Children in 2003 (DoHC, 2003), contain a section entitled ‘Healthy eating within the SPHE curriculum’ (p. 4). The section acknowledges that the SPHE curriculum exposes children to key issues relating to nutrition and healthy eating at a level appropriate to their age and stage of schooling. However, it is disappointing

to see that some material within the points outlined by DoHC as necessary to incorporate are not age appropriate. For example, it is questionable whether primary school children require detailed information on breastfeeding and folic acid in pregnancy as outlined on page four of the DoHC document (DoHC, 2003). This would seem to suggest that more yet remains to be done in the area of inter-departmental collaboration so that the translation of policy into practice becomes a reality rather than rhetoric.

In NI it would appear to be the case that collaboration between government agencies has been more successful, as demonstrated by the recent drawing up and implementation of nutritional standards for school lunches. The standards are set out in a document entitled *School Food: Top Marks* and was a joint initiative of the Department of Education, the Department of Health, Social Services and Public Safety and the Health Promotion Agency for Northern Ireland (ETI, 2010). Whilst the document focuses primarily on food provision, the issue of pupil knowledge of nutritional concepts and the role of curricular provision are also noted as important aspects for the standards to be successful in practice. While there is huge potential to develop inter-departmental collaboration within jurisdictions, without doubt there is also great scope for cross-border partnerships to assist in not alone the healthy eating policy formulation, but more importantly the implementation of this in the school setting. In this regard it is important to note that some collaborative work has already occurred between the Departments of Education in both jurisdictions. In the drawing up of *Living Learning Together* guidelines for teachers of PDMU, the CCEA (2007) acknowledge that the DES *Walk Tall* programme was drawn on in the development of this resource.

5.8 Teacher Knowledge of Nutrition

The WHO (2009) has highlighted the importance of having teachers trained in the associated curricular area when diet and/or physical activity is being delivered through the school curriculum. We found that many (n=67) of the teachers were relying on their initial pre-service teacher education for their knowledge of nutrition and healthy eating. This finding is of concern as nearly half (49%) of the teachers had between 11 and 35 years teaching service. Lloyd et al. (2000) note that teacher's perception of self-efficacy in teaching is an important aspect of successful practice. Much of the research in this area has centred around primary school teachers' experiences of teaching science (Ramey-Gassert et al. 1996; Roberts et al, 2001; Morrell & Carroll, 2003) Though not a widely researched area, some research has been conducted on teachers self-efficacy in teaching PSHE in the UK (Evans & Evans, 2007). An Ofsted (2005) review of PSHE in secondary schools highlighted a perceived lack of confidence by teachers in teaching PSHE, and noted that the potential for deep learning by pupils using cross-curricular approaches was not always recognised by teachers.

Of interest to the present discussion is the point made by Perez-Rodrigo & Aranceta (2001) that the knowledge of teachers as well as their attitudes and perceptions of food and nutrition is an important aspect in the development of successful school-based nutrition education programmes. Consequently, it was not surprising that the teachers expressed the need for in-career development

in the areas of nutrition, healthy eating and food commodities. Young et al. (2005) highlighted that central to the success of nutrition interventions in schools is the training of teachers and food providers. Speller et al. (2010) make the case that initial teacher education is the ideal stage for developing teacher competencies in the area of health promotion. While this might be the ideal, initial teacher education programmes are often criticised for being overloaded (Government of Ireland, 2002; Burke, 2009) and this issue was noted by many of the teachers whom we interviewed when reflecting on their own initial teacher education experience.

In-career development is important for all teachers, and especially so when revisions to existing curricula occur, or when new curriculum areas are introduced. Following a consultative conference on SPHE in the new primary curriculum, a report by the Irish National Teachers Organisation (2006) indicated that SPHE was the subject with which teachers had expressed the greatest level of dissatisfaction concerning the provision of in-service seminars. Furthermore, the NCCA (2008) found the Department of Education Primary Curriculum Support Programme (PCSP) in-service education to be the most common form of in-service availed of by teachers for SPHE, with 92% of respondents indicating that they had availed of the in-service as a means to support their implementation of the new curriculum area. In-service for the new SPHE curriculum was provided by the PCSP in the form of two one day seminars held in the academic years 2001/02 and 2002/03, prior to the implementation of the new syllabus in the 2003/04 academic year. Given that in the NCCA survey (2008) the majority of respondents had between 1-5 years teaching experience, the high number who reported availing of in-service as a form of CPD is not surprising. It is worth noting that the in-service provided at that time focused on the entire SPHE curriculum and not the specific area of food and nutrition.

5.9 Conclusion

In conclusion, there are definitely opportunities for collaborative professional development of teachers in a number of areas. It was also interesting to note that most of the teachers did not have a comprehensive teaching resource pack or textbook for the food and nutrition area. Again, there are clear opportunities to design teaching resources which will assist the teaching of the food and nutrition area, regardless of location, due to the commonalities in syllabus content of PDMU and SPHE.

Chapter Six: Conclusions and Recommendations

6.0 Introduction

The revised primary school curricula in both Northern Ireland and the Republic of Ireland have resulted in formalising PDMU and SPHE as mandatory subjects. This research set out to explore the experiences of primary school teachers encountered during their teaching of healthy eating and nutrition education as a component of the PDMU curriculum in NI and SPHE curriculum in the RoI. The study intended to give a closer focus on the strengths and weaknesses of the teaching of healthy eating related material in the classroom and of the environmental circumstances in which these lessons are conducted. This is an under-researched area at primary level in the Irish context; therefore it was considered a useful exercise to identify barriers to the successful teaching of the syllabus material and quantify the emerging issues common to teachers within both jurisdictions. In addition, it was also deemed appropriate to determine levels of satisfaction with teaching resources available and access to relevant information. It was anticipated that identified issues and needs could be met through professional development initiatives which could serve to enhance the experience of teachers as facilitators. It is expected that the findings from the study will be of interest to both educational and health policy-makers in both jurisdictions.

6.1 Conclusions

It was reassuring to find that most (93% n=148) schools in this study had a healthy eating policy, as other research has highlighted the importance of a healthful environment in reinforcing the teaching of healthy eating in the classroom. The teachers were very positive about the healthy eating policy and rated it as having an 'excellent' or 'very good' impact on pupils' eating behaviour and health attitudes. However, it was of some concern that very few (n=40) schools had funding to support the delivery of the policy. This is a matter which needs to be addressed as a priority as in order for policy to be effectively implemented appropriate resources need to be put in place. Furthermore, teachers did not appear to have their own hard copy of the policy in their classrooms. This issue needs to be rectified in order to have a visible and accessible document which reinforces the importance of the actual healthy eating practices of the children.

Despite raising concerns about an overcrowded curriculum, teachers viewed the teaching of nutrition and healthy eating as part of the PDMU and SPHE curricula as very worthwhile. Overall 75% of teachers rated the work on food issues, healthy eating and nutrition as very relevant to the lives of their pupils. This finding was strongly reiterated in the teacher interviews.

Self-efficacy is a critical aspect of effective teaching. Consequently, the fact that 67% of teachers rated their experience of teaching food issues, healthy eating and nutrition as moderate is a point

worthy of further investigation. This coupled with the fact that 79 teachers had between 11-35 years teaching service, with many relying on their initial teacher education for their knowledge on food and nutrition issues, warrants attention. Undoubtedly, this will have knock-on effects for the effective delivery of the subject content due to the evolving nature of nutrition. Consequently, it is important that teachers are kept abreast of the current nutritional recommendations.

A welcome finding was that the school setting is being utilised for nutritional health promotion across Ireland, with 76% of teachers participating in a health promotion initiative or nutrition intervention programme such as *Food Dudes* or *Bright Bites*. The participating teachers were very positive about these interventions and highlighted in particular how these complemented the curriculum area.

Lack of teaching resources was highlighted, with 76% of teachers stating that they did not have a specific textbook or coherent teaching resource pack for teaching food issues, healthy eating and nutrition issues.

6.2 Recommendations

In light of the escalating obesity levels of children across Ireland, and indeed the role of early intervention regarding healthy eating in the school setting, it would be important for the Departments of Education in both jurisdictions to execute periodic reviews of course content pertaining to food and nutrition in both PDMU and SPHE at primary level. Other stakeholders such as the health promotion agencies need to be involved in these periodic reviews in order to ensure a holistic approach to the teaching of healthy eating and nutrition. Furthermore, it is essential that any review considers the benefits of including practical culinary skills as a compulsory component of both curricula.

The issue of funding for the implementation of the healthy eating policy within schools needs to be urgently addressed in light of current research on the eating habits of young children on the island of Ireland. Therefore, all teachers should have their own hard copy of the healthy eating policy so as to ensure the constant reinforcing of the practical details of the policy with their students. In addition parents should have readily available access to the school healthy eating policy either through the school website or through its publication in the school homework journal.

Analysis of the curriculum content of PDMU and SPHE suggest that there are common themes specifically pertaining to food and nutrition in both jurisdictions. Thus it would be feasible and indeed logical to design and develop coherent teaching resource kits using a collaborative approach. In order to encourage engagement in active learning methodologies, age-appropriate educational subject specific resources such as DVDs and posters are required by the teachers, as this study has highlighted that there are currently very limited comprehensive resources to support the teaching of this area. If practical cookery was to be included in the curriculum, then classroom- appropriate as opposed to kitchen-appropriate recipes would need to be developed and disseminated.

Because of the changing nature of nutritional information, greater professional development is required as teachers cannot be expected to rely on their own personal knowledge or their initial teaching education for the effective communication of these areas. Collaborative in-career professional development in the area of food and nutrition is required in order to ensure that teachers have current information as a basis for the delivery of the subject content.

In conclusion, teachers in the classroom setting may be regarded as being at the interface in introducing concepts, knowledge and attitudes regarding food to children from an early age. While curriculum reforms have taken into account the need for comprehensive sequential education, and although PDMU and SPHE syllabi address the issues of healthy eating, nothing has been documented from an Irish context regarding the experiences of teachers in teaching the material within the syllabi. Even though this was a small scale research study, it has clearly highlighted the potential for cross-border professional development and educational resource kits in the specific areas of healthy eating and nutrition education for primary school teachers.

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APPENDIX A

Healthy Eating Policy



1. The aim of these guidelines on healthy eating is to help all the members of our school community: children, parents and teachers to develop positive and responsible attitudes to eating and to appreciate the contribution that good food makes to health.
2. Nutrition - what people eat is known to be one of the key factors influencing their health. What children and teaching staff eat in our school is very important, as lunch in school may be one of their main daily meals. The Social, Personal and Health Education Curriculum provides an opportunity to teach the pupils of Réalt na Mara about food and healthy lifestyles.
3. A healthy lunch-box includes a piece of food from the first four shelves of the food pyramid i.e. (i) bread & cereals & potatoes (ii) fruit & vegetables (iii) dairy products (iv) meat, fish and alternatives.
4. Friday is our treat day, on this day we can include one treat from the top shelf of the pyramid e.g. 1 packet of crisps or a mini-bar.
5. Some of the healthy foods that we encourage for lunch include: sandwiches, rolls, fruit, popcorn, raisins, yoghurt i.e. natural or fruit yoghurts, fromage frais, crackers, cheese i.e. cheese slices, cheese strings, cheese dips, carrot sticks, celery sticks, whole grain bars or flapjacks. Healthier choices of drinks include unsweetened juice, water and milk. Suggestions for healthy lunches are included in the accompanying leaflet: **Healthy Eating for Children.**
6. Cans and glasses are not permitted for safety and litter reasons. Foods that have wrappers are to be kept to a minimum and disposed of properly to reduce litter and protect our school environment. Children are encouraged to use lunch-boxes to reduce the use of foil and wrappers.
7. All classes will receive a minimum of two lessons on healthy eating as part of the Social, Personal and Health Education Curriculum.

8. The opportunity to attend a healthy eating information evening will be offered to all parents.
9. Teachers and older pupils will assist younger children with their lunches. All classes will be allocated time to commence eating their lunches under teacher supervision before they go out to play in the school yard.
10. Teachers will provide positive modelling and supportive attitudes to encourage healthy eating choices.
11. The school will have an incentive scheme to encourage healthy eating.
12. There will be a Healthy Eating Awareness week in our school each year and in early June the Healthy Eating Guidelines for our school will be reviewed.

Healthy Eating Choices

Healthy foods
help us learn
and play



Healthy foods are
kinder to teeth



APPENDIX B – Educational Resources



Food Activities



Teaching Resource

Meet the Le Crunch Bunch

Fuji
Fuji is happy and healthy and for your health adventure sports like roller skating, water surfing and roller skating!

Golden Delicious
Golden Delicious is Top of the Apple and known to be around for 100 years. Known as the 'Dorset' Apple, it's the best!

Gala
Gala been playing football for years and years. He is fit and strong and makes sure to keep his strength with lots of fruit and vegetables a day.

Granny Smith
Granny Smith is the best and is a strong, the strongest grandchild in town. She also likes to eat!

Red Delicious
Red Delicious is an apple, he likes to drink and play and gets plenty of exercise from riding all things healthy.

What is a portion?
In order to get your fruit as more portions a day You must know what a portion is. One portion is any one of these:

- An apple, banana, pear or orange
- Two plums
- Half a grapefruit
- One large slice of melon
- Three spoons of vegetables
- Three spoons of fruit salad
- A handful of grapes
- A glass of fruit juice

Did You Know?

1. One apple gives you 20% of your daily fibre needs
2. Apples are naturally fat free
3. They are rich in Vitamin C
4. A natural source of potassium and iron which helps build strong bones
5. Crunching into an apple helps to keep your teeth clean and strengthens your gums
6. Apples are full of moisture to refresh and hydrate your body
7. Fruit sugar gives you a natural energy boost!

Core Facts about Health and Nutrition
Apples are an easy addition to eating 5 or more portions of fruit and vegetables each day.

- 1. Apples come in many varieties - Red Fuji, Golden Delicious, Braeburn, Granny Smith, Red Delicious. They come in a range of sizes, shapes, colours and tastes. They are a source of vitamins, minerals, fibre and antioxidants. They are also low in fat and calories.
- 2. Apples are a source of fibre. A medium-sized apple contains about 4g of fibre. This is a good source of fibre. Apples are a good source of fibre. Apples are a good source of fibre.
- 3. Apples are a source of fibre. A medium-sized apple contains about 4g of fibre. This is a good source of fibre. Apples are a good source of fibre. Apples are a good source of fibre.

Life Cycle of an Apple

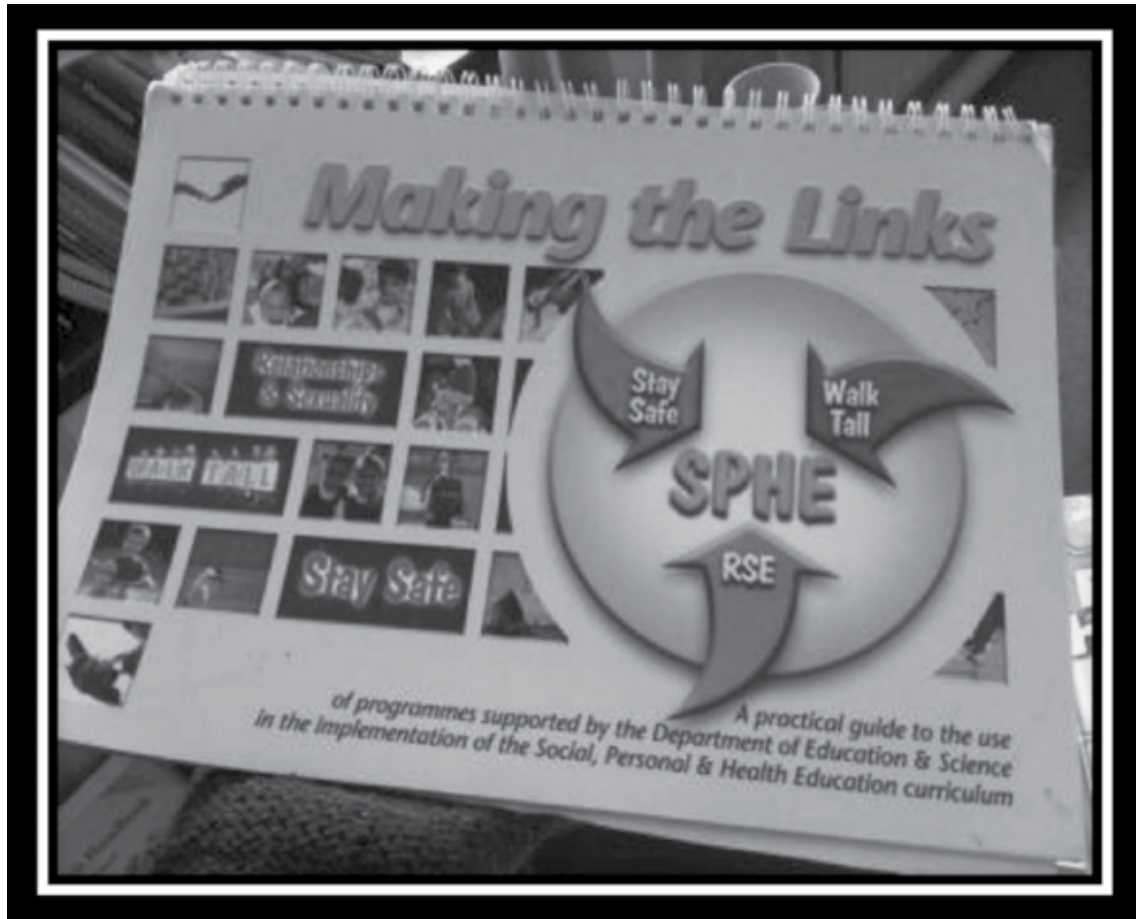
Planting Apple Seeds
When you have finished eating your apple, take out the seeds and plant them. Get a small paper cup and fill with soil. Put your seeds in the soil. Water the soil. Watch the seeds grow.

Apple Trees
Did you know that an apple tree may live for more than one hundred years? Well even an old tree has the same purpose every year! In summer tiny buds appear on the branches. In autumn the buds develop and grow a protective covering. During the winter the buds are dormant, protected from the cold by a fatty coat. In the spring the buds expand into green leaves and little flower buds appear. Finally pollinate the apple's flowers, which give way to the developing apples. Every apple contains seeds that can begin the process again.

DUNNES STORE

www.lecrunch.ie

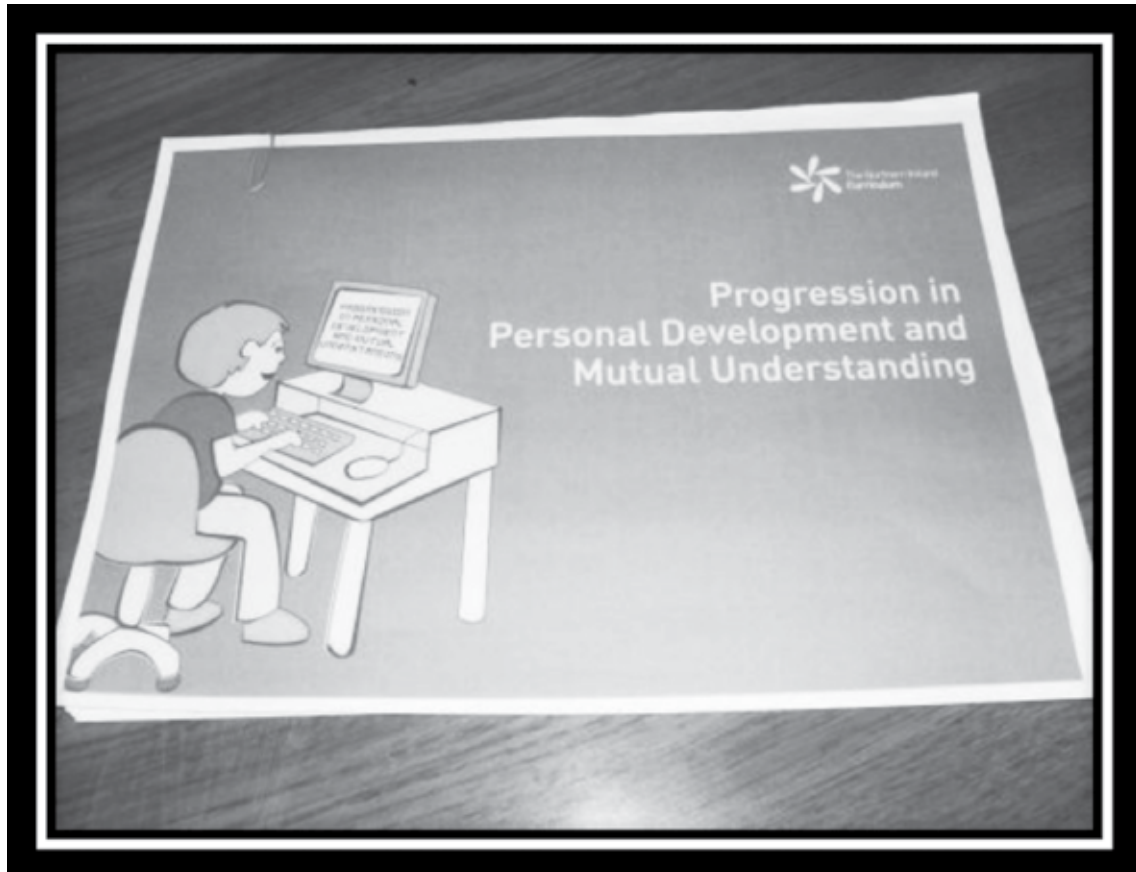
“Making the Links” Resource



“Living Learning Together” Resource

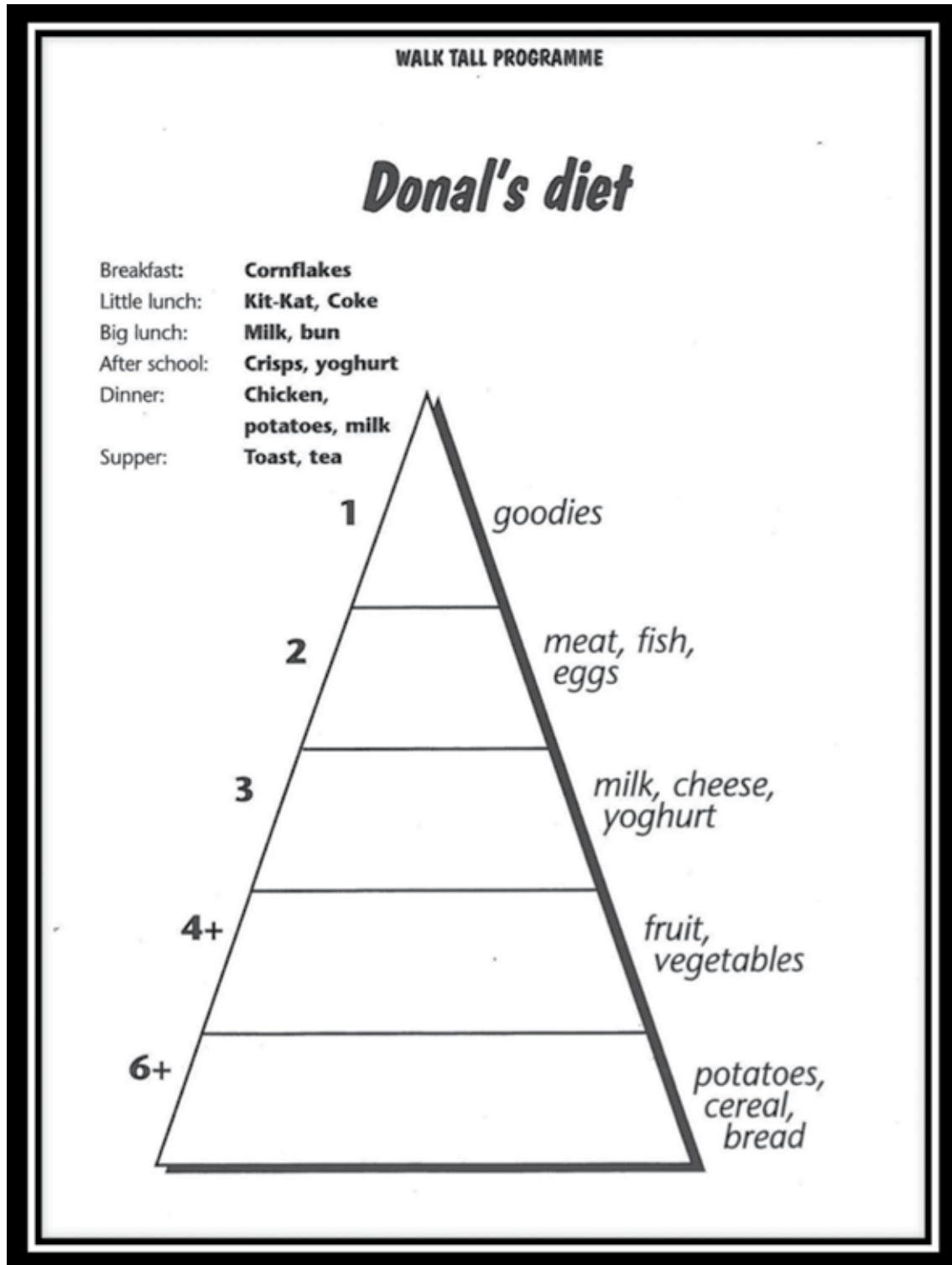


“PDMU Progression Grid”



Teaching Resources





SPHE 5th Class

The Digestive System

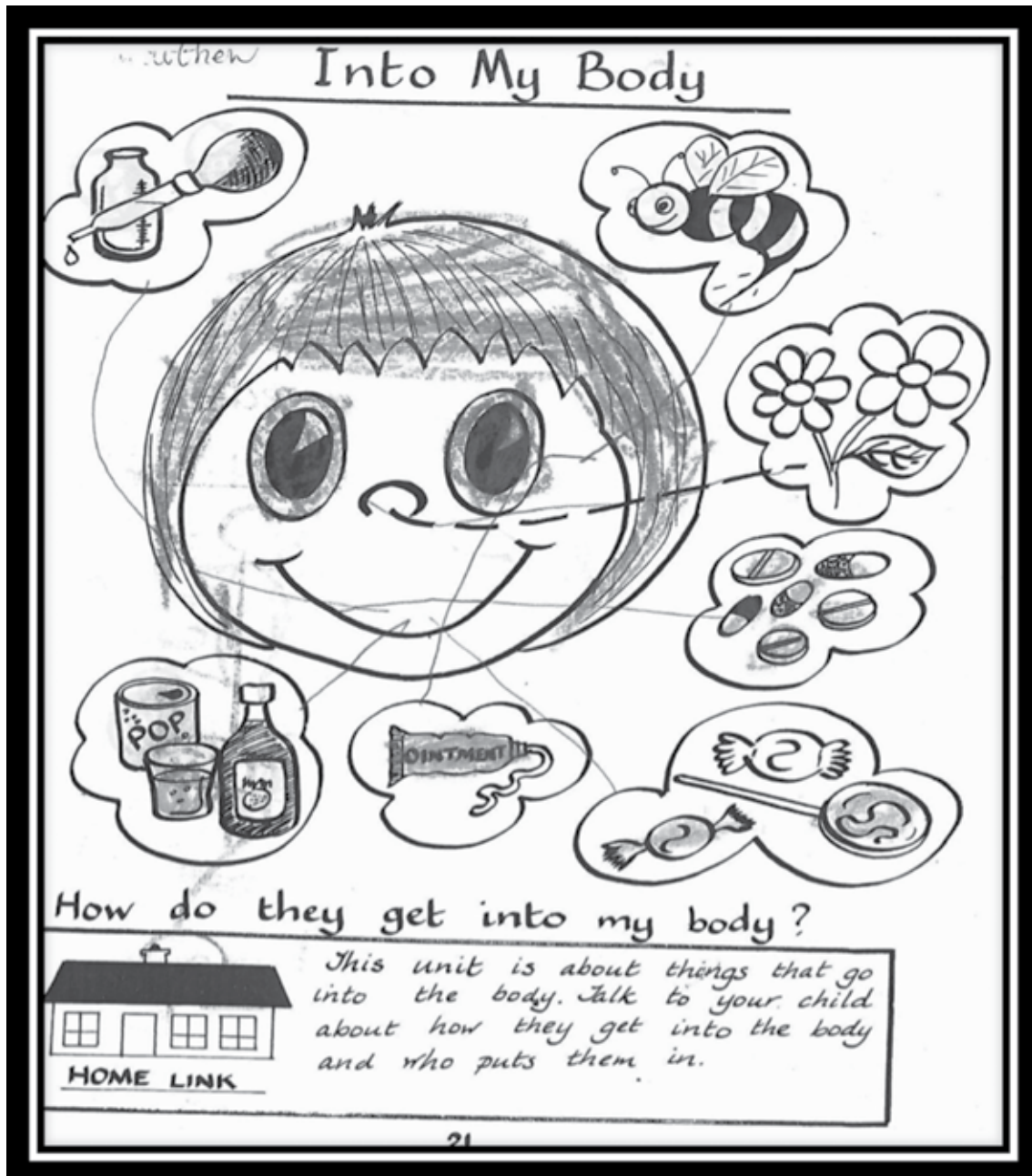
THE ALIMENTARY CANAL

Thursday 30th Sept. 2010

Beno Burger

1. The sight and smell of the burger made Beno mouth water.
2. It is made by salivary glands in your cheeks and under your tongue.
3. Then the incisors bit into the burger and the premolars and molar teeth chewed it up.
4. The food went down the gullet.
5. The food mixed with the liquid in the stomach and the stomach muscles churned it up.
6. The liquid mixed with the food.

SPHE Junior Infants



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